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VOL. II.—7TH YEAR. SYDNEY: SATURDAY, AUGUST 28, 1920. No. 9.

MONTESSORI'S CONTRIBUTION TO EDUCATION.[1]

By **Miss R. W. Stevens,**
Mistress, Blackfriars Practice School, Department of Public Instruction, New South Wales.

It is now seven years since the first Australian experiment in the application and adaptation of Montessori's method was carried out at the Blackfriar's Infant Practice School. Since then, successful experiments have been made in all the classes of the Infant School and in the three primary classes.

Dr. Montessori has made a very definite contribution to education, she has influenced both educational principle and educational practice.

Educational Principle.

I will endeavour to discuss, firstly, some of the features of her influence on educational principle.

Her great and leading principle is, of course, self-education, through liberty. A study of the history of education shows that, while others saw the light, Dr. Montessori's message strikes home more than that of any predecessor who advocated measures of self-education. In the second place, it seems to me that she has brought before us more forcibly than any other educator the need for scientific child study. The thoroughness of her work is evident in her weight and stature and biographical charts and her anthropological notes. Her records of each individual child's development have been a very real inspiration. In the third place, I think that she has given us an added respect for child life, for every little child with whom we come in contact. The Kindergarten Montessori teacher has her aim ever before her to provide the best means of a threefold self development for every individual child. In the fourth place, Dr. Montessori has done initial work in the matter of sense training. This phase of her work has met with a good deal of criticism, but even one of her keenest critics makes the following statement:

> Even if Montessori has exaggerated the detachment of sense activity from personal interest and the absorption of the child in his sensations, there are still substantial grounds for regarding early childhood as the period of life in which the senses are predominant in mind and that is sufficient justification for especial attention being paid to the education of the senses. . . . There is no doubt that Montessori has done real service to education, by showing the great value of tactile experiences in early childhood. The success of her method of teaching writing, for example, is to be referred to the use she makes of touch.

Montessori's Influence on Educational Practice.

Dr. Montessori linked principle and practice. She showed us classes of 40 and 50 little children moving quietly, intelligently about their class rooms, teaching themselves. Kindergartners, in interpreting Fröbel's process of self-activity, were well prepared for the introduction of Montessori's freedom into the class room. For them it was merely a step on. We call our school a Kindergarten Montessori. It is probable that Fröbel meant to convey in his process the kind of self-teaching that Dr. Montessori has worked out in actual detail. A South Australian lady, who had associated herself with the kindergarten system for some years, came to us a short time ago. As she approached Sydney she wondered whether she could bring herself to give up all her kindergarten ideals for something quite new. After she had been with us for a little time she learned that there was no need to give up anything. She had merely to progress.

Apparatus.

In order to make free work in the class rooms practicable, Dr. Montessori devised an apparatus largely self-corrective. The children are able to correct many of their own mistakes with its aid. As time goes on, Montessori's material will probably be modified or give place to better apparatus, but its principle of self-correctiveness will abide.

A great deal has already been done in the way of making new apparatus. It has been my privilege and also that of my staff and the other teachers who are adapting Montessori methods, to plan material for free work. We have now at Blackfriars original free material for every class in the Infant School. There are hundreds of varieties.

Montessori Method Adapted to the Infant School.

The general trend of lesson periods in our Infant School, the sub-primary classes, is (*i.*) a short directed period, followed by (*ii.*) a free period. During the directed period all the children needing some help in some phase of reading, writing, number and so on are gathered together. As each individual child masters, let us say, for example, the number fact, he is allowed to go away and work by himself. Material is provided for this purpose. He does not have to "sit still" and wait till all have finished, as in the days gone by. Each child is allowed to travel at his own pace and there is, in consequence, a complete absence of strain, I must, however, emphasize one point. This freedom is liberty, not licence. The child must not interfere with the liberty or comfort of others. He is not allowed to be rude or rough. He must observe the laws of good breeding. I know of no finer chapter in any educational work than that of Dr. Montessori on discipline. Surely any teacher reading her words can never lose them: "We will call an individual disciplined when he is master of himself." As I watch the children I am always struck with the joy they have in their work, their interest in it and their marked concentration. The children do not choose only the easy tasks. They try all and often take the greatest pleasure in attempting to do the difficult things. I have had repeated evidence of self-reliance, initiative and self-control.

Let me tell you a little story of a recent event in our school. One day, as the sub-primary class was passing through the babies' class room, Miss Burnett was playing a charming dance on the piano. We felt happy and light-hearted and the music seized us. We teachers started to dance. Other teachers joined

[1] Read at a Meeting of the New South Wales Branch of the British Medical Association on July 9, 1920.

in. Presently a head and then another and then many were thrust out from the adjoining class rooms. The children had not before experienced anything of the kind. We invited the teachers and children to come in. Soon the whole school was enjoying the dance. The little ones tried to imitate the steps of the mazurka and made a very brave attempt. There was no roughness, no abuse of the liberty allowed them. The children and the teachers were supremely happy. I had to leave the dancers after a short time to attend to my other duties. About a quarter of an hour later the teacher played "quiet time" on the piano; at once all the fun and frolic ceased, instantly every child was motionless. This was, I thought, a striking example of the degree of self-control the children possess.

Miss Giles, who has charge of the primary experimental class, tells of similar happenings with the older children.

In order to give the children more floor space and also fresh air and to try to take even another step onward, I recently asked the Education Department to convert an old, spacious verandah into an open-air room. The request was granted. Two class rooms adjoin this verandah. It is fitted with mats and tables and chairs and here the children work quite alone. The teacher only comes out if she is needed to help in some difficulty. I have been interested and have spent as much time as I could spare in observation. The same happy concentration and interested business as is seen during free time in the class rooms, is always in evidence. So successful has the experiment been that we have asked the Department to fit up another verandah. This effort will, we hope, pave the way for good times for many other children in the future. Perhaps we might see all new school buildings with verandahs for free work.

The Kindergarten Montessori Teacher.

Dr. Montessori changes the title "teacher" to "directress"—the Montessori teacher is much more an observer than ever before.

Dorothy Canfield Fisher draws a very clever comparison between the typical modern kindergartner and the Kindergarten Montessori teacher. She reminds the reader of the fact that in a purely kindergarten room the teacher is very much the centre of everything—the games, table periods, etc., all depend upon her leadership—whereas in the Kindergarten Montessori the teacher is not so much in evidence. The children possess the room and control their own activities. But Dorothy Fisher does not mean that the teacher's personality and power are not needed.

Those of us who have experimented with the new method, know that it calls for more power, more definite and scientific knowledge of the child, of educational principles and of the art of employing those principles than any other method. The onlooker in a kindergarten Montessori is struck immediately with the fact that the children are learning; this stands out much more than that the teacher is teaching.

But surely this is real education, to be able to provide the means for children to teach themselves.

As has been said, Montessori material is largely self-corrective, hence the children are to a great extent able to control their own errors, but the directress is ever observing and ever ready to help, if her help is really necessary.

The doctor believes that the child's effort to overcome the difficulties in performing some exercise with the material is of far greater value than the actual correct accomplishment, but she does not allow a child to struggle so long that he will lose heart. Herein lies the hardest problem that confronts the kindergarten Montessori teacher. "When shall I help?" To know when to step in and "give a ray of light," or when to withhold the aid. It is, of course, very much easier to help than to wait, but the latter is more often the better for the child.

The kindergarten Montessori teacher has continually to remind herself that every child must travel his own road; no one else can do it for him.

Dorothy Fisher gives wonderful inspiration in her discussion of this. She says she never contemplates this great truth without, half playfully, half earnestly, being reminded of the lines:

"Since all that I can do for thee,
Is to do nothing,
This my prayer must be:
That thou mayest never guess, nor ever see,
The all-endured, this 'nothing done' cost me."

Thus the Montessori teacher must from the very philosophy she is living out each day develop the greatest of all possessions for herself—inner control.

From this, three natural corollaries may be noticed:

1. The Kindergarten Montessori class room is the calmest of rooms.

2. The child is trusted more than ever he was before. The teacher learns with wonderment how much he is able to do for himself and she marvels that the world has taken so long to let him begin to come into his own.

3. The teacher develops a deeper respect for every little life that is with her.

MANIFESTATIONS OF RICKETS IN SCHOOL CHILDREN.[1]

By **Harvey Sutton, O.B.E., M.D., D.P.H. (Melb.), B.Sc. (Oxon.),**
Principal Medical Officer, Department of Public Instruction, New South Wales.

The disease known as rickets is of especial interest in that English physicians have taken a leading part in its recognition and investigation. It was defined by Glisson in 1650, when it was regarded by the medical world as an entirely new disease. At any rate, early literature pays no attention to its manifestations. In 1660 Mayow pointed out the softening of the bones. The interest in it in England has continuously been maintained and with it are associated names like Jenner and Barlow, who showed especially the associated disorder, scurvy rickets. Then came Hopkins, of Cambridge, who brought to notice the importance of accessory food factors, called later vitamines (Funk). Bland Sutton's lion cub experiences and quite recently Mellanby, with his puppies, have established the importance of the fat-soluble A. Often all three, fat-soluble A, water-soluble B and anti-scorbutic C vitamines are scanty in poor diets, but

[1] Read at a Meeting of the New South Wales Branch of the British Medical Association on July 9, 1920.

fat-soluble A decides the matter, though the others may have an influence.

While diet deficiency takes the dominating position, certain investigations in Scotland have demonstrated that overcrowding was closely associated with rickets and often decided its appearance, though the diets were apparently identical.

Assertions have been made as to its alleged absence from certain nations and in the tropics. It was called a disease of civilization in the temperate zones. The evidence is not unquestionable. Marfan found it prevalent in tribesmen from Central Africa, in Constantinople and in Japan. Too often it is either not recognized or not looked for. It is said to be rare in Australia, but my findings were 25% of ordinary school children had slight but definite degrees.

Rickets is obvious in the early years of infancy, but to a certain extent, like congenital syphilis, it becomes relatively hidden in the later years of school life.

Nevertheless, its presence in the shape of bony deformities and effects on the nervous system render it still obvious, if we are on the look-out.

My attempt to-day is to demonstrate, not the advanced types of bony deformity, requiring surgical attention, which, indeed, are rare, but the slight, though definite, types so common in school life. First comes the simple Harrison's sulcus and tendency to the funnel chest, then the pigeon chest, with the sternum standing out between two lateral depressions. After the chest deformities come the spinal swerves and twists, then the leg, with knock-knee and bow-legs. Finally, there is the square, bossy head, looking so large, yet often measuring below the average. In addition, we have a curious malformation of the permanent teeth, the honeycomb variety, extremely rare in the Australian born, yet very common in the child born overseas.

A study of these helps us to further conclusions. The depressions in the chest wall, which produce the grooved chest and the pigeon chest, run along a line a little above the attachment of the diaphragm and parallel to the rib margin. Then they turn up on each side of the sternum. The depressions are here rather to the outside of the costo-chondral articulation and parallel with each other.

In breathing the abdominal organs rise and fall with piston-like action (Keith), being controlled by the reciprocal contraction of the abdominal muscles and diaphragm. In the rachitic nothing is more characteristic than the hypotonicity, the slackness of ligaments and muscles. The abdominal organs are not supported in place and, what is still more important, the distension of the bowels resulting from the very frequent gastro-intestinal disturbance, actively weakens the abdominal wall and we have the typical pot belly.

The relative failure of the normal piston action results in increasing the negative inspiratory pressure inside the chest. The diaphragm flattening holds out the edge of the ribs and the sternum moves forward with it. Hence the pressure exerts its effect on the adjoining weakest part, near the costo-chondral junctions and a groove or depression results. Funnel chest or Harrison's sulcus is thus common. The sterno-lateral grooves do not appear, as a rule, unless nasal obstruction is present, as in adenoids. The improvement, if not complete effacement, of these kinks and crumplings is readily attained. If one of these pigeon-chested children raises his arms above his head, with hands together and face looking upwards, the grooving has temporarily gone. The strong pull of the pectorals and also of the extended anterior abdominal muscles straighten out these irregular curves. On return to the position of attention, the deformities reappear. The position shown is that of the breast stroke in swimming, where it is maintained for some time and the regular action of the pectorales combine to pull the chest out into position. A few months of practice of this stroke has excellent results. Spinal curves similarly benefit. The contact with the water and the vigorous muscle action in the sunlight tones up the slack muscles, while the breast stroke straightens and the side stroke unbends and untwists the crooked spine.

Rickets is perhaps most often overlooked, because of the general tendency to give the name only to the severe surgical types. Yet known typical cases of rickets in infancy can be followed up into the slight but definite types shown to-day and all shades of intensity of defect can be seen, from the slightly irregular to the severest types. The latter are certainly not common in Australians. Many of the worst seen in hospital are in Syrians or negroes, a curious racial difference, though not unassociated with the overcrowding factor.

Often, too, a case is not accepted unless it shows practically every form of rachitic deformity. This is surely not a correct point of view. Rickets, like syphilis or diphtheria, not only selects certain tissues, but also may concentrate itself on one part of the body, with but little effect elsewhere. One may go further and say that this is more or less characteristic of every disease. How few diseases would be diagnosed if we insisted on a complete text-book description of their signs and symptoms?

Rickets may then show itself only in the cranial form, or the chest shape, or spinal curve, or the leg alignment.

One hears much of the rickety rosary, so very characteristic of the enlargement at the epiphyseal line, but *post mortem* records show that it may often not be seen, because it is present at times only on the pleural aspect. One curious form of epiphyseal enlargement I have not seen noted is the acromio-clavicular "button," a curious nummular prominence at the acromial epiphysis of the clavicle.

The theories of the causation of rickets are numerous. The exact value of each of the recognized ætiological factors has yet to be estimated. The recent work is apparently contradictory. The great importance of the fat-soluble A vitamine has been proved, but the overcrowding investigation reveals that other factors may have an influence.

Some years ago I published some figures in relation to its incidence in school children and its association with the early date of beginning artificial feeding (see page 192).

The marked effect of artificial feeding is obvious. The severe cases and the largest percentages of definite and slight cases are found in children artificially fed before six months of age. A marked drop and

Comparison of Infant Feeding and Rickets in 523 Boys of an Industrial Suburb.

Date of Beginning Artificial Feeding or Duration of Breast Feeding.	Rickets Percentage—Severe.	Definite.	Slight.	Nil.	Total Examined.
Artificial Feeding from birth	20.0	11.0	7.7	61.0	26
Artificial Feeding from 1 to 3 months	13.0	35.0	13.0	39.0	31
Artificial Feeding from 4, 5 and 6 months	5.0	28.3	5.0	61.0	21
Natural Feeding up to 7, 8, 9 months	—	11.7	6.0	82.0	34
Natural Feeding up to 10, 11, 12 months	1.1	9.3	6.0	83.0	172
Natural Feeding up to 13 to 17 months	3.5	10.0	3.5	83.0	140
Natural Feeding up to 18 to 23 months	1.1	14.0	1.4	82.5	68
Natural Feeding up to 24 months and over	—	22.5	3.0	74.5	31

Estimates from General Experience.

Patent foods fed before six months of age = at least 40% rickets (definite).
Breast feeding from nine to twelve months = 10% rickets (definite).
Average finding for all children (industrial) = 20% rickets (definite).
Overcrowding (less than four rooms), artificial feeding in the first six months, responsible for most severe forms.

The figures in the table were collated by the clerk, the breast-feeding periods being taken from the answers on the parents' circular, the figures and degree of rickets being the independent findings of the medical examiner.

only less severe types are found in those weaned at nine months, with a slight rise where breast feeding runs into 24 months.

But a number of children breast fed to nine months did show definite, but not severe rickety manifestations. These and the severe grades of deformity can safely be referred to overcrowding. They occur in families living in houses of less than four rooms. This would seem to reconcile the divergence in the previously mentioned investigations in Great Britain.

A curious feature is that a lower percentage of slight cases is seen where artificial feeding began at birth. The numbers are small, but study of these cases suggest that many, beginning, as they did, under direct medical observation, benefited from medical advice as to diet.

How, then, does overcrowding act? The accusation made by Kassowitz against respiratory poison has much justification. The baby is the one person in the household who gets the full value of any respiratory pollution, for it spends often twelve hours in a bedroom, small and ill-ventilated, which it shares with at least two adults, its parents. Perhaps it is only taken out into the fresh air for an hour or two in the day. Over-crowding has other even more important effects. Almost always we find overcrowding as part of a vicious circle of poverty, bad housing, ignorance and dirt.

Infections, especially respiratory and gastro-enteric, have been proved to be far more common where accommodation is limited. Sheer human contact and filthy conditions, dirt and flies account for this. If, as was pointed out, the pot belly is an antecedent character, then the abdominal distension is only the outward sign of the inward gastro-intestinal disturbance, indigestion, flatulence, etc., so constantly found in the rachitic. This would explain the marked susceptibility of the bottle fed, who, as we know, are twenty times more liable to die from diarrhœa, etc., than the breast fed. Those who survive have the gastro-intestinal disturbance, which may be the basis of the disease. How often, too, is over-feeding in breast children found as the reflex of ignorance and the direct cause of dyspepsia in infants!

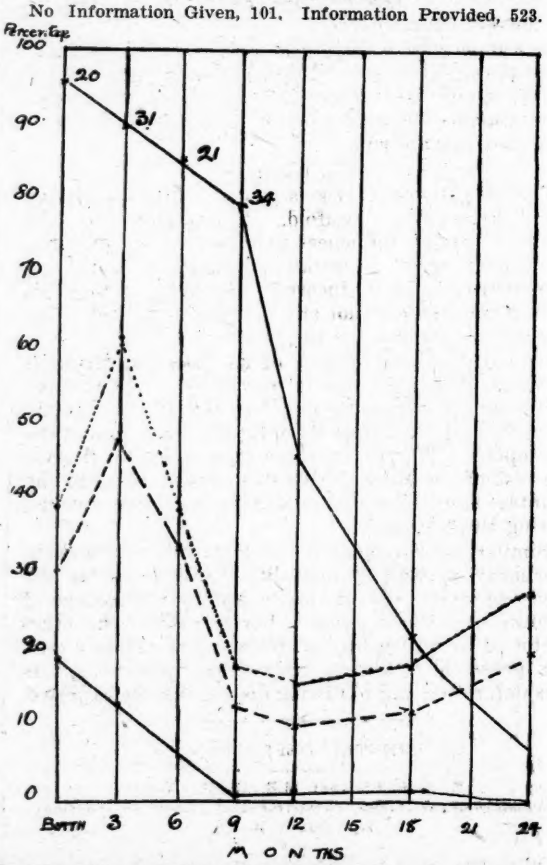
In these cases it is not a deficiency in intake, but in assimilation. The fat-soluble A fails to be absorbed, to exercise its essential controlling effect, directly or indirectly, on the calcium metabolism, the epiphyseal bone laying and the stable quality of nerve cells.

Patent foods, with their sophisticated food factors unwisely substituted for the natural breast supply, rank first as a direct cause, but digestive disturbance, a "crowd" phenomenon and often infective in type, is ever present and directly or indirectly the great underlying factor. Where both have their full action we get the appearance of the severest types. True

Effects of Discontinuance of Breast Feeding.

Boys: Industrial Suburb.

No Information Given, 101. Information Provided, 523.



Upper curve shows percentage still breast-fed.
Numbers 20, 31, 21, 24 = those beginning artificial feeding at that period.
Percentage of rickets: Severe, continuous line; definite, interrupted line; slight, dotted line shown in lower curves.
Ordinate gives period of three months.

scurvy in infants, on the other hand, has no special association with over-crowding; indeed, the contrary is often the case. It is a food deficiency question entirely and furnishes an interesting contrast.

The curious geographical variability of disease is well shown in the case of rachitic teeth. Here we are able to assert that the child is an immigrant solely on the appearance of these teeth. Another example of the varying incidence of recognized disease signs is cranio-tabes, which is common enough in England, but rare in Australia. In other children's diseases we can find examples of this. Rheumatic nodules are very seldom seen in Australian hospitals and sarcoma in children is much less frequent than in the old world.

Rachitic teeth are very rare indeed in Australian school children, while in 300 immigrant children I found 10%, and figures in England run up to 25%. The odds are at least 100 to 1 in favour of the possessor having been born outside Australia.

The local rachitic product occasionally shows marked patchy opacities, especially in the upper incisors, but the honeycombing with depressed horizontal lines, often brown in colour, the curious peaks on the canines and molars following on defective formation of the enamel, etc., are confined to children of the northern hemisphere.

One is tempted to suggest that the hard water supplies, so typical of many English towns, introduces a factor absent here, where soft water drinking supplies, whether drawn from rain water tank or municipal tap, are the rule

Conclusion.

The importance of rickets in school life and to the school hygienist is twofold. It explains why the many deforming influences to which the school child is exposed, such as unsuitable desks, school bags, asymmetrical games, incorrect postures, only affect certain children and not others equally exposed. The susceptible children are the rachitic.

Secondly, the recognition of its risks and frequent incidence points the way to prevention. The crusade in favour of breast feeding has already in Sydney helped greatly to reduce the infantile death-rate of the metropolis. Thirty years ago it was double that of the rest of the State. Now it is almost equal to the country figure, even though that has been lowered during this period.

Similar improvement is being shown, I believe, in morbidity as well as mortality. I have so far not seen one severe case of rickets and the percentage of definite and slight cases is lower. When the other factor of over-crowding, at present presenting a serious phase, is tackled a remarkable improvement in this deforming and harassing disease may be expected.

MENTAL DEFICIENCY.[1]

By **C. P. Stewart, M.B., Ch.M. (Syd.),**
School Medical Officer, Department of Public Instruction, New South Wales.

With the exception of a small proportion of cases, mental deficiency is a condition in which the developmental career of the embryo has been prematurely arrested.

The essential manifestation of this developmental failure is a pathological condition of the cerebral cortex, a defect in the number and structure of its cells, which prevents the normal unfolding of the mental faculties. But this is not the only manifestation, for in marked cases of mental deficiency there are:

(1) Failure in the development of vital as well as mental force, with a general inadequacy of physiological function;
(2) Anomalies in the conformation and markings of certain parts of the body, known as the stigmata of degeneracy; and
(3) In some cases, indications of irregularity in the functioning of certain ductless glands.

Gross formative and physiological anomalies are not found in high-grade cases, but even these usually give some indication that the developmental failure is of a generalized character.

Activity of the convolutional tissue is expressed in infancy largely in spontaneity of movement. In early childhood movement becomes more controlled and co-ordinated and as sensory impressions become more numerous and lasting, activities become more purposive. In late childhood all movement is well co-ordinated and well controlled; some spontaneity is indicated in a readiness for play, laughter and talkativeness; cognition and comprehension have greatly increased, but activities are in the main unproductive and directed to serve immediate purposes. After puberty convolutional activity is expressed in conduct, which is deliberate and purposeful.

Sir Thomas Clouston tells us that "the great physiological crises of life bring into intense activity or throw out of action, wholly or partialy, great tracts of convolutional brain tissue"; during the process of mental development we notice the appearance of activities and emotional reactions which are acquired during the periods which correspond to these crises.

The mental development of the defective is characterized by backwardness, irregularity and ultimate arrest at a time when he still needs more efficient guardianship than his own defective brain can provide. The activities of each period he passes through are acquired slowly and imperfectly.

In the period of late childhood there may be a history of late teething, walking or talking. He may still show much movement that is ill-controlled and speech defect. His powers of attention are lacking. Some ill-controlled movement may have become habitual, so that he is constantly frowning and grimacing and fidgety. He usually presents some emotional instability; he may be easily provoked, or show a general muscular and emotional inertia, with lack of vivacity in facial expression. His interests are few and he is lacking in general knowledge and comprehension, so that he cannot be trusted to perform tasks which are part of the daily routine of children much younger than himself. He derives little or no benefit from attendance at an ordinary school.

The Binet scale is probably the most valuable instrument we possess for measuring intelligence, but the diagnosis of mental defect must depend upon the consideration of all available data, including family history, development history, emotional reaction, gen-

[1] Read at a Meeting of the New South Wales Branch of the British Medical Association on July 9, 1920.

eral efficiency in the home, at school, or at work; physical examination and conduct.

In high-grade defectives evidence of the mental deficiency may be very slight before puberty, after which the conduct discloses gross defects in intellection, emotion and volition. The history discloses some degree of backwardness in earlier years and physical examination may reveal other defects indicative of a generalized character in the developmental failure. He may have fair but superficial general knowledge and his activities may be largely directed into channels of delinquency, much of which is purposeless and unprofitable. His conduct may show lack of determination and of purpose. He is lacking in natural affection and shame. He does not inhibit the impulse to gratify immediate desires and shows a general lack of consideration for the person, feelings and property of others.

After puberty, too, the sexual impulse begins to assert itself and sometimes no effort is made to resist it.

The following are brief notes of three cases illustrating a simple type, a high-grade type and sexual aberration:

Case I.—Boy, 11 years. There is a neuropathic taint on both sides of family. His mother was very ill during pregnancy. He cut his first tooth at 12 months. He first talked at four years and speech remained indistinct for some years. He prefers the company of children younger than himself. He cries when the boys tease him. He is quick-tempered, but soon recovers. He can run messages if he has only to bring one article at a time.

On examination it is found that the cranial circumference is 52 cm.. He has asymmetrical ears, an arched palate and a fissured tongue. His hips and thighs are suggestive of the female type. He counts only up to 40. He cannot multiply or add single figures. His expression lacks vivacity and his attention is hard to engage. He is retarded four years by Binet tests.

Case II.—Boy, 15 years, is of an active type, talkative. He ran away from home after stealing. There is scholastic retardation. He played games with children younger than himself, but did not take part in regular school sports, though healthy, active and well-grown. He tells unnecessary lies and is quick-tempered. On one occasion he went stealing with other boys, who got 5s. each, while his share was a few pence. He has shown carelessness in the use of firearms and once threw a heavy article at a sister who called him to a meal. He has been employed several times for short periods, but will not keep at regular work.

On examination it is noted that his facial expression is weak; he is inclined to be restless. He has speech difficulty with several consonants. His cranial circumference is under 53 cm.. He has a marked cranial stigma. Pubescence is incomplete, but his genital development is exaggerated. He discusses his conduct freely and without feeling.

Case III.—Boy, 14 years, learned practically nothing during nine years at school. He has been employed at several places, but does not stay at work. He has always been peculiar and eccentric and his conduct is irresponsible. He has shown considerable cunning in imposing on people.

On examination it was found that his speech was clumsy and indistinct. He is easily moved to tears. He lies readily and contradicts himself. He will accept almost any suggestion. He has adult sex development. He admitted considerable sexual aberration. Later on he failed to inhibit an abnormal sexual impulse and showed lack of interest in the subsequent proceedings, which resulted in the loss of his liberty.

THE TREATMENT OF ANTHRAX.

By R. J. Millard, C.M.G., C.B.E., M.B., Ch.M. (Syd.), D.P.H. (Camb.),
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A note on the above subject appearing in this journal of July 31, 1920, quotes from the *American Journal of Medical Science* an account of the experience of Massachusetts General Hospital. The following conclusions are drawn, that "excision of the lesion is to be regarded as harmful, since it tends to break down the natural barriers to the spread of infection and increases the absorption of toxic substances from around the lesion," and that, "on the whole, conservative methods of treatment offer better results than surgical intervention, since there is, in all probability, a systemic infection from the outset." It happens that at the Coast Hospital, Sydney, there have been seven cases of cutaneous anthrax in the past five months and as excision of the lesion was done in all of these, it appears desirable to record them in some detail. From the clinical notes attached it will be seen that in every case the diagnosis was bacteriologically confirmed. All the patients received similar treatment, namely, free excision of the lesion and swabbing of the raw surface with carbolic acid and intravenous injection of anti-anthrax serum. In four cases the lesion was on the upper extremity, in the other three on the face. Of the three patients with face lesions, one had been using a shaving brush which was found to be anthrax infected and another a new shaving brush, which is now under examination for anthrax bacilli. The severity of the infection, as evidenced by local and constitutional symptoms, varied considerably. I presume that this was mainly due to variation in the dose and activity of the virus, since the subjects were all healthy adult men between 23 and 37 years of age.

The serum used was Mulford's, which is, I understand, made on the lines laid down by Sclavo.

It will be seen that in none of these cases was excision followed by spread of infection, but, on the contrary, by subsidence of local and constitutional symptoms. How much of this good result is attributable to the excision and how much to the simultaneous injection of anti-anthrax serum I am unable to say. But many clinical records of cases treated by excision alone show equally good results. Such a case was recorded with considerable detail by MacCormick and Tidswell in the *Australasian Medical Gazette* of October 20, 1904. In that case the lesion was of the face and a most satisfactory recovery followed excision.

In *Medical Clinics of North America* for September, 1918, Major Charles L. Mix gives an interesting record of six cases treated by him. Of the first two patients who were treated by anti-anthrax serum alone, one died. After these he adopted prompt excision *plus* serum and all recovered. In his third patient, with the lesion on the right cheek, he incised the right anterior and posterior triangles of the neck on account of œdema, but concluded afterwards that this was unnecessary. Moreover, and this seems very important, no anthrax bacilli could be found in the

fluid obtained from this œdema, nor anywhere more than one inch from the lesion.

He considers that, "in the outlying district, Nature makes every possible effort to coffer-dam the infection by blocking the lymphatics, but that in an untreated case the bacilli will ultimately pass the barrier and reach the general blood stream, with invariably fatal results."

If this view of the pathology of the lesion be correct, the indication appears to be for prompt excision while yet the "coffer-dam" is intact and, moreover, excision so planned that the whole lesion is removed, including all the vesicular area surrounding the actual eschar. It is quite imaginable that an incision which passed through the bacillus-containing area, as well as the area of lymph coagulation, might lead to spread of infection. If the most outlying of the ring of vesicles is included in the excision, this danger is avoided.

In conclusion, it may be of service to mention that at the Coast Hospital it has never been the practice to isolate patients suffering from anthrax. They are treated in ordinary surgical wards, without any detriment to patients undergoing clean operations or other surgical treatment in adjoining beds. Of course, it is necessary to impress upon the nursing staff the importance of strict asepsis and of care in disposing of the excised pustule and of any discharge before excision. After excision an ordinary granulating wound is left and the surrounding œdema does not yield anthrax bacilli.

Following are notes of the cases:

Case I.—H.M., male, age 23 years, a labourer, was admitted on February 2, 1920, with malignant pustule of the left forearm. Six days before admission he grazed the forearm while carrying hides. Next day the arm began to swell and after three days a "pustule" developed, with surrounding œdema.

On admission there was a typical malignant pustule on the forearm. Under general anæsthesia the pustule was freely excised (Dr. Stafford) and the raw surface swabbed with pure carbolic. At the same time anti-anthrax serum (Mulford), 60 c.cm., was given intravenously.

February 3, 1920.—At 2 a.m. the temperature was 38° C. and the pulse-rate 86. The œdema of arm subsided rapidly and his subsequent recovery was uneventful.

February 16, 1920.—The wound was skin grafted.

February 25, 1920.—The patient was discharged cured.

The pathological report on the excised pustule was to the effect that anthrax bacilli were present in the sections.

Case II.—A.G., male age 34 years, a station hand, was admitted on February 5, 1920, suffering from malignant pustule of the right wrist. Three days before admission, while breaking in horses in the country, he was bitten on the right wrist by a fly. In 24 hours he had great pain, which prevented him from sleeping, joint pains, shivering and vomiting.

On admission his temperature was 39.4° C. and his pulse-rate 112. A typical malignant pustule was present on the anterior surface of his right wrist, with much œdema of the forearm and painful swelling of axillary glands.

A smear from the pustule contained numerous large, Gram-positive bacilli, morphologically identical with *B. anthracis*, and a pure culture of anthrax bacilli was obtained on agar.

Under ether anæsthesia the pustule was freely excised (Dr. James) and the wound swabbed with pure carbolic acid and spirit. At the same time anti-anthrax serum (200 c.cm.) was given intravenously.

That night his temperature was 40.5° C. at 6 p.m. and 10 p.m..

On February 6, 1920, the temperature was above 39.5° C. all day and the œdema of the forearm had increased, but he did not feel so ill. A further intravenous injection of 100 c.cm. anti-anthrax serum was given.

On February 8, 1920, the temperature had fallen to normal. The swelling of the arm was subsiding and he felt well.

The subsequent course was uneventful. The wound sloughed, but gradually cleaned up.

On March 4, 1920, the patient was discharged, to come for daily dressing.

Case III.—A.J., male, age 36 years, a carter, was admitted on March 8, 1920, with a malignant pustule of the right forearm. Seven days before he had first noticed an abrasion on the right forearm. Three days later the arm began to swell.

On admission, his temperature was 40.3° C., his pulse-rate 126 and his respirations 30. There was a malignant pustule on the right forearm, with intense œdema of the forearm and hand. From the pustule smears were obtained showing abundant anthrax bacilli and an almost pure culture was isolated on agar.

Under ether anæsthesia the pustule was freely excised (Dr. Carter) and the wound treated with pure carbolic acid and spirit. Anti-anthrax serum (200 c.cm.) was given intravenously.

On March 9, 1920, the patient was still very ill. The temperature was 40.7° C. at 3 p.m.. The œdema of the arm appeared to have increased. Anti-anthrax serum (100 c.cm.) was given intravenously in the morning and 120 c.cm. at 8 p.m.. Vomiting occurred throughout the day. Serum from some of the outlying blebs contained no bacilli in the smears.

On March 10, 1920, the temperature had fallen to 38.3° C., but the œdema had spread to the deltoid region and chest wall; there were more blebs on the arm. Anti-streptococcal serum (50 c.cm.) was injected intramuscularly.

On March 11, 1920, the patient's general condition was much improved. The temperature was lower, but the œdema of the arm was subsiding only slowly.

On March 17, 1920, he had continued to improve, though his arm was still swollen and was suppurating. The patient had a serum rash. The subsequent course of his illness was prolonged by a good deal of suppuration of the arm and by an intercurrent attack of influenza on June 12, 1920.

He was discharged cured on June 21, 1920.

Case IV.—J.C., male, age 29 years, a wharf labourer, was admitted on March 19, 1920, suffering from malignant pustule of the right shoulder. He had been employed carrying bags of oats and wheat. He had had nothing to with hides. Four days before admission he first noticed a pimple on the right shoulder. This became worse and for two days he felt ill.

On admission his temperature was 38.9° C., his pulse-rate 116 and his respirations 22. There was a typical malignant pustule on the right shoulder, with marked œdema surrounding it and enlarged glands in the right posterior triangle of the neck. Fluid from the pustule contained numerous anthrax bacilli in smear and gave a culture of *B. anthracis* and *Staphylococcus albus*.

Under chloroform anæsthesia the pustule was freely excised by Dr. Carter and the raw surface swabbed with pure carbolic acid and spirit. Anti-anthrax serum (90 c.cm.) was given intravenously.

The subsequent course was uneventful. In four days the temperature was normal and the patient felt perfectly well. The wound was somewhat slow to heal.

He was discharged cured on July 23, 1920.

Case V.—J.H., male, age 30 years, a labourer, was admitted on May 29, 1920, at night, with malignant pustule of the right cheek. Two nights before he had been shaved. Next morning he awakened with sweating and cold shivers. He went to work, but had repeated shivering attacks and had to give up. He was admitted to the Royal Prince Alfred Hospital on May 28, 1920, for cellulitis of the face. *B. anthracis* were found in the smears.

On admission to the Coast Hospital there was a typical malignant pustule of the right cheek, with a good deal of œdema of the face. The temperature at 10 p.m. was 39.1° C.. Fluid from the pustule contained abundant *B. anthracis* in the smears. Anti-anthrax serum (100 c.cm.) was injected intravenously.

On May 30, 1920, under chloroform anæsthesia, the pustule was freely excised (Dr. Stafford) and the raw surface painted with pure carbolic acid and alcohol. Anti-anthrax serum (100 c.cm.) was given intravenously. The temperature at 6 p.m. was 40.2° C..

On May 31, 1920, the temperature fell to 37.8° C. at 2 p.m. Anti-anthrax serum (100 c.cm.) was injected intravenously.

The subsequent course was uneventful, except for a serum rash, which appeared on June 4, 1920.

He was discharged cured on June 26, 1920.

CASE VI.—A.T., male, age 28 years, a quarryman, was admitted on June 15, 1920, with malignant pustule of the chin. Three days previously he had noticed a small pimple under the chin, which developed into a typical malignant pustule, with œdema of the neck.

Smears from the pustule contained numerous *B. anthracis*.

A new shaving brush, which had been used by this patient, was examined by the Principal Microbiologist of the Department of Public Health and the following report was received: "Anthrax bacilli were not detected in cultures, but a guinea-pig inoculated with a suspension made from the brush died in four days. Typical anthrax bacilli in spleen, liver, etc."

On admission his temperature was 39.2° C., his pulse-rate 130 and his respirations 26.

Under ether anæsthesia the pustule was freely excised (Dr. Stafford) and the raw surface swabbed with pure carbolic acid and alcohol. Anti-anthrax serum (200 c.cm.) was given intravenously.

On June 17, 1920, his temperature had fallen to normal. The patient felt well and the swelling was subsiding.

The subsequent course was uneventful. He was discharged cured on July 29, 1920.

CASE VII.—A.W., male, age 30 years, a labourer, was admitted on July 28, 1920, with a malignant pustule at the right angle of the lower jaw. Five days before admission he had noticed a pimple on the right angle of the lower jaw. This gradually spread, but without causing constitutional symptoms, as he remained at work as a municipal labourer until the day of admission, when he called at the Royal Prince Alfred Hospital on his way home from work. The condition was there diagnosed as anthrax.

On admission the temperature and pulse were normal and he did not feel ill. On the angle of the jaw was a pustule the size of a sixpenny piece, surrounded by a continuous subcuticular vesicle and much œdema.

Fluid from the pustule yielded a few *B. anthracis* in smear.

Under ether anæsthesia the pustule was freely excised (Dr. Furber), as in the other cases, and 170 c.cm. anti-anthrax serum were given intravenously. This caused some alarming but temporary anaphylaxis, although the precaution had been taken of giving preliminary fractional doses of the serum. The patient had been given antitetanic serum while on active service.

His subsequent course has been uneventful. There are no constitutional symptoms and the wound is healing.

A new shaving brush, which had been used by this patient, is now under examination by the Principal Microbiologist of the Department of Public Health.

Reports of Cases.

FLEETING AMAUROSIS IN CHILDREN.

By **James W. Barrett, K.B.E., C.B., C.M.G., M.D., M.S., F.R.C.S. (Eng.),**

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Miss A. B., aged nine, was examined by me on June 21, 1920, for defect of vision. The following story was given by her mother. A month previously she had an attack of influenza, with a temperature of 37.8° C., and had been absent from school for about two weeks. On return to school she found that she could not see the blackboard. Her sight was better in the dim light than in a bright light. She had considerable difficulty in lifting her eyelids and considerable pain in her head and eyes. There are three other children in the family; there have been no deaths. She is a rather undersized, nervous child, without any evidence of organic disease.

When examined, both pupils were widely dilated and fixed. The fundus and media were normal. The vision was as follows:—

$$\text{Right: } \frac{6}{60} \text{ c. } \frac{+0.5}{+0.5-90^\circ} = \frac{6}{36}$$

$$\text{Left: } \frac{6}{60} \text{ c. } +1 = \frac{6}{60}$$

Two days later the vision rose to $^6/_6$ on both right and left sides, but the pupils were still inactive and dilated. Complete recovery took place eight days after the first examination.

The case is remarkable and corresponds to the type known as acute cerebral, or post-convulsive, amaurosis, first described by Nettleship (1884) and Gay (1893). The disease then remained practically unrecognized until Sydney Stephenson discussed it fully in 1905. The usual story is of a convulsion, followed by total blindness, absence of fundus changes, with fixed and dilated pupils.

Recovery of vision takes place in the majority of cases after an interval of total blindness, sometimes extending over months. It is not usually seen in children as old as the subject of this memorandum. The better term for the disease is that applied by Stephenson, *i.e.*, "fleeting amaurosis."

It is attributed to disturbances in the visual cortex, but this hypothesis fails to explain the dilatation and fixation of the pupil. The motor disturbances, ptosis or retraction, met with may be explained by involvement of the motor cortex. The case recorded is that of a nervous child, who had no definite convulsion, who is much older than is usual in such cases and in whom the loss of vision was partial and of comparatively brief duration. I have seen several cases previously in infants and in young children, with recovery in every case. From the point of view of the practitioner, it is satisfactory that the prognosis is, on the whole, very favourable in a condition so serious and alarming.

The notes of this interesting case were kindly taken by Dr. Parnell.

References.

Nettleship: *Ophth. Soc. Trans.*, 1884.
Gay: *Royal London Ophth. Reports*, 1893.
Sydney Stephenson: *British Journal of Children's Diseases*, 1905.

Reviews.

PHARMACOLOGY.

Professor Dixon's book on practical pharmacology is a laboratory text-book containing a collection of simple experiments which the student can perform for himself, without any expensive apparatus.[1] They are designed for use in the medical course at Cambridge and include experiments illustrating the action of a great number of well-known drugs. There is in each case a short discussion on the results obtained and on the meaning of these results.

The modes of action of the drugs are considered and also to some extent the way in which they can be usefully employed in therapeutics. These notes are necessarily short and somewhat scrappy. It is essential and obviously intended by the author that they should be supplemented by the use of a larger text-book.

Professor Dixon adheres to the old teaching that the usual cause of death from chloroform poisoning in man is inhibition from central stimulation and makes no reference to Levy's work on chloroform and ventricular fibrillation, though the latter explanation of the fatalities is gaining ground and seems to fit the clinical facts much better.

A very useful chapter on absorption and excretion of drugs, illustrated by experiments, is included in the book and in an appendix the dosage of the chief drugs used for experimental purposes is given.

The book is certainly a most useful one as an aid to teachers and students in laboratory work in elementary pharmacology.

[1] Practical Pharmacology, for the Use of Students of Medicine, by W. E. Dixon, M.A., M.D., F.R.S.; 1920. Cambridge: Syndics of the Cambridge University Press; Demy 8vo., pp. 88. Price, 7s. 6d. net.

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Promises and Piecrust.

During the course of the war certain alien enemy subjects were deprived of their liberty for reasons that satisfied the military authority. It may be assumed that the men who were interned and who were kept in internment, were guilty of disloyalty to the country extending hospitality and protection to them, even if they were not actually dangerous to that country. The military authority did not reveal the grounds on which these persons were kept apart from the remainder of the community. The majority of these men have been sent back to their country of origin since the cessation of hostilities. A few remain. Among those who were interned, two medical men have reaped a considerable amount of unsought notoriety. The one is Dr. Eugen Hirschfeld and the other Dr. Max Herz. It has been announced that Dr. Hirschfeld will be deported within a short time. What are the authorities doing about Herz? The facts are, or should be, quite simple. Max Herz was interned during the war, presumably for good reason. A bogey was raised that his knowledge and skill as an orthopædic surgeon were so superior to the knowledge and skill of our own practitioners that it was not in the interest of Australians that he should be sent back to Germany. This *canard* appears to have influenced many foolish persons and some who thought themselves wise. It may be admitted that Herz was a competent practitioner, but he certainly had not become a leader among orthopædic surgeons. To-day he is probably far inferior to our own orthopædic surgeons, who have gained invaluable experience in the service of the King and Empire. The action of the authorities in permitting Max Herz partial liberty during the period of his internment to attend to patients was misplaced, unless, indeed, the military authorities had made a mistake in ordering his internment. This supposition would seem to be highly improbable, for the authorities found it necessary to have him guarded during these visits and he was required to return to the Concentration Camp. The time came when an order was issued for his deportation. It will be remembered that a clumsy mistake was made. He was taken to a ship bound for Java. Herz refused to board the ship, on the ground that the Australian Government had no power to send him to a Dutch possession. The extraordinary then happened. Herz was sent back to Holdsworthy and shortly after he was given his release. In the meantime the medical profession in the Commonwealth demanded his removal or an explanation from the authorities for the failure to carry out the order of the Aliens Board. It must be recognized that when two countries are at war, the citizens of one of these countries found in the other country are usually deprived of their freedom. In Australia we dealt more leniently with our alien enemies during the war. Only those who abused the hospitality of Australia were removed. In other countries and in other times, all internees have been shipped back to their homeland as soon as hostilities have ceased. If they were regarded as undesirable during the war, it would be rank stupidity and hypocrisy to renew the hospitality immediately the guns became silent. The demand made by the medical profession was a very reasonable and justifiable one. If these men were interned for good reason during the war, for God's sake get rid of them as soon as you can! Still Max Herz was given his freedom and allowed to remain and practise in New South Wales in March of this year. The matter was brought to the notice of the Prime Minister on June 18, 1920, by a powerful deputation. The facts were set out; the absurdity of Herz's claim of indispensability was explained. Mr. Hughes promised that the case should be treated on its merits. If evidence of disloyalty were brought forward, his case would be dealt with in exactly the same manner as that of any other man against whom disloyalty was alleged. This happened on June 18, 1920. Weeks have gone by. The medical profession has not been informed that the military authorities had made a mistake, that Max Herz has not been disloyal. And all this time he is permitted to enjoy citizenship of the Australian Commonwealth. Surely we are justified in asking the authorities what they propose to do with Dr. Max Herz.

BACTERIAL TYPES.

In recent times bacteriologists have noted that micro-organisms which were formerly held to be of a uniform kind, exist in numerous varieties. The distinction between the different so-called types has been affected by observations on their morphological characters when grown outside the animal body and on their behaviour in inducing responses to biological tests. Attempts have been made to correlate divergencies from the standard with virulence and infectivity. The criteria on which the classification of the types has been based, have not in all instances satisfied a critical analysis. Nevertheless, the grouping has been utilized for the purposes of identifying certain forms of disease and of improving the methods of preventing or treating these diseases. In order to avoid the necessity of having to retrace our steps in the search for information concerning the pathogenesis of the infective processes, it will be wise to review the claims on which the differentiation of types of bacteria is founded. Unless it be found that the basis of the edifice is solid, the superstructure cannot be held to be safe.

Koch postulated that a bacterium cannot be accepted as the causal organism of a disease, unless it can be grown in pure culture, unless these pure cultures on injection into suitable animals are capable of inducing a disease process identical with that under investigation and unless the same organism can be recovered from the body of the animal in whom the disease had been induced by the introduction of the pure culture. The modern bacteriologist asks us to place a special limitation on the term pure culture. For example, it was formerly held that if a pneumococcus were isolated from the sputum of a person suffering from pneumonia, the culture would be pure, when no other defined bacterium was found in the culture tube. Now the culture is not regarded as pure if it contains more than one of the four types of pneumococcus. In order to determine whether a culture of pneumococci is actually pure, it becomes necessary to ascertain whether the progeny from a single pneumococcus exhibit variations of the kind which have led to the grouping into types. A few years ago numerous observations were made on what was termed mutation of bacteria. In this work the Indian ink *Touche* method for starting a culture from a single bacterium was employed. It was found that cultures obtained from a single bacterium could be made to exhibit variations of behaviour toward the artificial media in which they were grown. It has, however, been found that these artificial qualities have been uncertain and unstable and that there has been a tendency to a reversion. A bacterium, like any other living thing, has, without doubt, individual characters, many of which are hereditary. Bacteriologists are in the habit of taking a bacterium out of its natural environment and requiring it to exhibit fixed qualities when placed in artificial conditions. It is extremely useful to grow bacteria on agar and other culture media to which substances, such as lactose or inosite, have been added. No one, however, is justified in standardizing a bacterium according to its behaviour toward a foreign substance with which it does not come in contact in nature. Again, bacteriologists expect bacteria to exhibit the same bio-chemical reaction with aniline dyes when they are grown on an ingenious but entirely artificial medium as when they multiply in the tissues of the host they infect. Too little regard has been paid to the significance of the tinctorial changes when a bacterium is stained with one of the aniline dyes. The bacteriologist recognizes the bacterium by its ability to take the stain, that is, to become coloured, rather than by its chemical affinity for oxidizing or reducing agents, for organic compounds with definite side chains and so on. In the next place, the grouping is carried in accordance with certain biological reactions. Pfeiffer's phenomenon of bacteriolysis is obviously a natural process and must be governed by the laws of immunity response. It can be observed in the animal body during the course of an infection, but only when the body is gaining mastery over the invading bacteria. Is it proven that agglutination is a natural immunity process? It must be admitted that the regularity of response is extremely suggestive. But it must also be admitted that the phenomenon is not so readily detected within the infected animal. Moreover, agglutination of bacteria can only be demonstrated when a strain of bacteria is used which is endowed with the quality of remaining in suspension for a considerable time.

The significance of the influence of an artificial environment is not, as a rule, taken into account in the division of a species of bacterium into types. If a man is transplanted from his native land and compelled to live in a wholly different climate, with wholly different food and in wholly different surroundings, he soon exhibits physical and mental changes of an unmistakable kind. His children, born and bred in the new environment, will manifest some, but not all, of the altered characters of their parent. But if the children are transferred to the parent's native land, a further change takes place and they gradually change some of their physical and mental attributes. Successive generations of children, born and bred in the same environment, will possess more or less fixed qualities. But these qualities can be modified to some extent, at least, if a member of the family is transferred to the native country of his ancestor. There is no reason to assume that bacteria behave in a different manner. By culture in the test tube, we create for the parent and subsequent generations of bacteria a new environment. An altered physiological response must arise. We then return some members of the family to the natural environment of the ancestor. They find the same nutriment on which the ancestor thrived. Can we assume that the qualities exhibited by the bacteria during their sojourn in the culture medium will be perpetuated in the animal body? It is highly probable that some of the more sharply defined biological qualities are actually peculiar to the particular family. But it would seem to be highly improbable that the qualities of a morphological kind and those obviously acquired during the stage of artificial growth are fixed qualities. The differentiation into types based on such qualities should be refused.

Virulence and infectivity tests, if properly safeguarded, are far less liable to lead to wrong conclusions. The less artificial the conditions in which the bacteria are cultivated in a state of purity, the more reliable will be the results. There is strong evidence that bacteria, like other living things, always breed true. Evolutionary changes may take place slowly, but when they occur the resultant organism appears with fixed qualities and must be distinguished from those strains of the same organism which have not undergone these changes. These will probably be real variant types. Whether two variants from a single bacterium can still retain the power to produce the same disease has not been proved. If this were found to be the case, would it not be probable that the immunizing properties of the two variants would be identical? We have still much to learn concerning the subject of types of bacteria, but the study is full of promise. Each step must be taken cautiously and circumspectly and no advance should be registered until it has been thoroughly tested and found to be true.

ALLERGY IN INFANTS AND CHILDREN.

Recognition of the phenomenon of protein sensitization has led to a better understanding of some of the abnormal conditions occasionally met with in connexion with infant feeding. It has been shown that various morbid conditions, such as urticaria, angio-neurotic œdema, eczema and acute dermatitis, are in many instances anaphylactic phenomena due to an intolerance of foreign proteins. Certain cases of asthma and gastro-enteritic disturbances, including the cyclical vomiting of children, are sometimes to be explained on this hypothesis. Dr. Oscar M. Schloss[1] has recently recorded interesting observations on a series of 122 cases of allergy in children.

The presence of allergy is to be suspected when it is observed that definite symptoms arise on the addition of a certain constituent, such as cow's milk or egg albumin to the dietary.

The occurrence of protein sensitization can be demonstrated in such cases when a definite reaction is observed after a cutaneous test, in which the offending protein, such as lactalbumin, casein, ovomucoid or ovalbumin, is found to produce a well marked wheal when applied to the abraided surface of the skin of the forearm. In all cases a control should be carried out at the same time, so that simple traumatic reaction in an unusually irritable skin, such as exists in patients subject to factitious urticaria, can be excluded. A positive reaction consists of a distinct urticarial wheal, surrounded by a zone of erythema, in the presence of a negative control test. The cutaneous test, as described, is to be preferred to an intracutaneous reaction, since acute general reactions may follow the latter method in cases of very great sensitization. Moreover, many vegetable proteins are difficult to obtain in a form soluble in physiological saline solution. They are soluble only in alkaline media unsuitable for intracutaneous injection. Sufficient evidence has been accumulated to make it reasonably certain that a positive skin reaction in the presence of negative control tests is an indication that the patient is sensitive to the protein to which he reacts. It can usually be demonstrated that the protein causing a reaction is capable of producing symptoms. A condition of temporary desensitization which may appear immediately after recovery from

[1] *American Journal of Diseases of Children*, Vol. 19, 1920.

anaphylactic shock is a factor which may vitiate the conclusions to be drawn from a cutaneous test for protein sensitization.

Allergy in the human subject is closely analagous to the condition of anaphylaxis, which has been produced by the injection of foreign protein in experimental animals. The origin of sensitization in human beings is a question of considerable interest. It is probable that the condition may be congenital or acquired. Certain infants appear to possess a natural sensitization to egg albumin. In other cases egg albumin may be originally tolerated well and serious symptoms appear only when this substance is again ingested after a considerable interval, perhaps several weeks later. Experiments have demonstrated that in sensitized guinea-pigs symptoms may be produced by feeding with large amounts of the proteins to which they are sensitive. The symptoms are usually intestinal and not those of acute anaphylactic shock. If the results of such experiments could be definitely proved to apply to the human subject, an explanation might be found for many cases of food idiosyncrasy. The hyperacute type of allergy met with in infants with urticaria, asthma and symptoms of anaphylactic shock is stated to be most commonly due to sensitization to milk or egg, less commonly to beef. This is the type of disturbance observed clinically after injections of horse serum in patients susceptible to this substance.

That spasmodic asthma may frequently be an allergic phenomenon is now well recognized, the allergy being due to the proteins of food, pollens, epidermal scales of animals or bacterial products. Angio-neurotic œdema and *erythema multiforme* are commonly regarded as belonging to the same category. The relation of infantile eczema to food idiosyncrasy is a matter of considerable importance. It has frequently been noted that the vast proportion of infants and young children suffering from bronchial asthma have had eczema during infancy. In dealing with such cases sensitization to several proteins is often found and difficulty arises in the development of a food free from milk protein, which would be capable of maintaining nutrition. It is a common experience that infants suffering from eczema usually do best on milk in which the protein is partly denaturized by boiling or peptonization.

The treatment of patients suffering from food idiosyncrasy by elimination of the offending food is simple, provided the patient is not sensitive to a large number of proteins. Moreover, many patients recover spontaneously following the constant ingestion of the offending food, the disturbance produced gradually becoming less and less. Systematic treatment by desensitization has also been advocated. This is carried out by giving injections of increasing doses of sterile solutions of the offending protein in normal saline solution when soluble in this medium. Immunization by feeding may be accomplished by the administration of gradually increasing amounts of protein, until tolerance is established. By this means it is possible to immunize a considerable proportion of patients showing idiosyncrasy to egg or milk. The phenomenon of protein sensitization cannot be held responsible for the majority of the digestive disturbances of infants fed on cow's milk, which are far more commonly due to bacterial infection or to excess of protein fat or sugar or to dietary otherwise unsuitable. It is probable, however, that such is the explanation of some of the cases occasionally encountered, in which definite symptoms of allergic nature are observed to follow the ingestion of foreign protein.

VITAL CAPACITY AND PULMONARY TUBERCULOSIS.

Years ago physiologists recognized that the pulmonary ventilation is necessarily diminished in conditions affecting the pulmonary alveoli. Measurements were made of the vital capacity of persons suffering from tuberculosis of the lungs at least 70 years ago and the fact was established that in all cases of evident disease the tidal air was lessened. This matter was noted, but since it appeared to be such a self-evident result of a lesion that put a portion of lung tissue out of action, it provoked no interest. There is, however, an aspect of this question which did not present itself to the earlier workers. Measurements of the vital capacity might lead to a recognition of the amount of impairment of lung tissue. In other words, the vital capacity of a tuberculous person might serve an an index of prognosis. Professor G. Dreyer and Dr. L. S. T. Burrell have studied this subject closely and propose a method of gauging the extent of disease in the lung by measurements of this kind.[1] In the first place they have worked out formulæ for arriving at constants of the vital capacity according to the weight of the patient, his chest circumference and the length of his trunk. It is necessary to recognize that the vital capacity of a person increases when he follows a healthy, athletic, outdoor life and further that loss of weight from any cause is accompanied by a reduction of the vital capacity. These facts have influenced the observers in their calculations. The method was put to the test in the following manner. Dr. Burrell collected the data from patients at the Brompton Hospital for Consumption and from the Frimlay Sanatorium and from healthy persons. No diagnosis nor medical history was forwarded with the information, only the body weight, trunk length, circumference of the chest and vital capacity, together with the sex, age and occupation of the patient or person and a number for identification. Professor Dreyer analysed the data and determined the vital capacity figure for each person expressed as a percentage above or below normal. These calculations were carried out in Oxford. From the results of 200 examinations they have come to the conclusion that the vital capacity of persons suffering from pulmonary tuberculosis is always lower than the normal for persons of the same age, sex and occupation. In the next place any improvement in the clinical condition is accompanied by a raising of the vital capacity. The curve of the various findings therefore represents a quantitative measure of the result of treatment. They suggest that the determination of the vital capacity is useful for the classification of cases of pulmonary tuberculosis. By this they mean that these determinations indicate the degree of damage to health in a given

[1] *The Lancet*, June 5, 1920.

case. They are also of opinion that in cases of doubtful diagnosis these determinations may also prove useful. That a standardized method of recording the vital capacity may serve as a reliable guide to the prognosis of a tubercular infection seems quite probable. Whether Professor Dreyer's method is sufficiently delicate remains to be proved by experience. We certainly need convincing proof before this method can be accepted as a guide to prognosis, efficacy of treatment and diagnosis.

TUBERCULAR INFECTION OF THE MENINGES.

A study of the incidence of infection by the bovine type of bacillus in cases of tubercular meningitis has recently been undertaken by Dr. N. Norick[1] in the research laboratory of the New York Board of Health.

The invasion of the meninges by tubercle bacilli is generally regarded as secondary in nature, a focus of tubercular infecting being usually pre-existent in some other region of the body.

It is reasonable to suppose that during the period between the original infection and the development of meningeal symptoms the type of bacillus does not become altered. An attempt has been made to ascertain whether the percentage of incidence of bovine infection is appreciable in tubercular meningitis and whether the bovine type of the bacillus has a predilection for the meninges.

A review of a large number of cases recorded in the literature has revealed evidence leading to the conclusion that bovine infection occurs in 49% of cases of tubercular meningitis in children under the age of five years. As the ages of the patients advance the number of bovine infections decreases, whereas infection by the human type of organism becomes more frequently observed. In adults the bovine type is found so rarely as to become almost insignificant. The explanation of these findings probably lies in the facts that tubercular infection in very young children is usually conveyed through milk and that bovine bacilli are more virulent in the young. Infections in later life are more commonly air borne, the human type of organism prevailing. In the investigations recorded the type of bacillus has been determined by a study of the cultural characteristics and observations of the virulence of the organisms in rabbits. It was found that little reliance could be placed upon differences in the morphological characters of the organisms as found in the cerebro-spinal fluid of patients.

SPONDYLITIS AND ABDOMINAL PAIN.

Attention has lately been drawn by Dr. Douglas Vanderhoof[1] to the frequent occurrence of abdominal pain simulating the symptoms of visceral disease in patients suffering from spondylitis. It is of historical interest to note that disease involving the articulations of the spinal column is stated to have been recognized in Egyptian and Nubian remains dating as far back as 4,000 years B.C.. At the present day spondylitis is a condition not infrequently overlooked in clinical examination. The arthritis is often associated with hypertrophy of bone, atrophy of cartilage and calcification of ligaments. Involvement of the nerve roots may give rise to symptoms which may lead to an erroneous diagnosis of disease of the abdominal viscera. The character of the painful sensations produced may vary from dull aching pain in the region of the distribution of the nerve root fibres to acute paroxysmal seizures suggestive of gastric crises, renal or biliary colic.

Nervous symptoms in spondylitis have been recognized by many of the earlier authors, particularly von Bechterew, who in 1892 described what he regarded as a special type characterized by nerve root pains, paræsthesia muscular atrophy and paralysis.

Various cases have been reported in the literature in which nerve root symptoms have simulated disease of the appendix, gall-bladder or kidney. Confusion in diagnosis is particularly prone to arise in cases in which the symptoms are unilateral. The presence of spondylitis can usually be readily confirmed by the radiographic examination of the vertebral column, which should form part of the routine diagnostic procedure in patients suffering from pain of obscure origin in limbs, thorax or abdomen.

[1] *Journal of Medical Research*, January, 1920.
[1] *Journal of the American Medical Association*, June, 1920.

A WARNING.

During the past few weeks some medical practitioners in various parts of the Commonwealth have received a printed communication signed by one Fred. Johns, of Adelaide, requesting the recipient to enter in an accompanying form personal and professional particulars for insertion in a publication called "Who's Who in the Commonwealth." In certain instances a specimen page of the projected publication is sent with the other papers.

Members of the British Medical Association in Australia are earnestly requested to consign this circular appeal to the waste paper basket. At its meeting held on February 1, 1915, the Federal Committee resolved:—

> That the Federal Committee, having given due consideration to the question of the propriety of responding to the invitation of the publishers of the *Medical Who's Who*, expresses the opinion that it is undesirable for medical practitioners to permit personal notices of themselves to appear in such publications.

It was obviously intended that this resolution should cover general biographical books as well as medical. It must be remembered that there is the strongest objection existing to advertisements on the part of medical practitioners. Notices in publications like the one referred to above can be avoided by a refusal to supply the information required. Medical practitioners should not be led astray by the handwritten note on the printed letter informing them that all medical men who served in the war, would be included, or that some other special reason existed to justify compliance with the request. Apart from the medico-ethical aspect of this question, we are inclined to the opinion from perusal of the specimen page that the information conveyed by this publication will not be of a valuable kind.

Abstracts from Current Medical Literature.

ORTHOPÆDIC SURGERY.

(75) Sciatica From the Orthopædic Standpoint.

The pathology of sciatica has always been obscure. Various writers have sought to attribute the characteristic pain to neuritis or to changes in the nerve due to "rheumatic" or gouty diathesis. J. A. Nutter (*Canadian Med. Assoc. Journ.*, June, 1920) contends that such statements are only a cloak for ignorance and that medical writers have been content to follow one another blindly without inquiring into the nature and cause of the disease. In 1909 Goldthwait drew attention to the sacro-iliac joint as a possible source of sciatica; from that time orthopædic surgeons have been the principal contributors to the study of the disease. The majority of cases have been shown to be due to lesions of the lumbar spine or of the sacro-iliac and hip joints. The author gives details of four cases in the first of which the trouble is said to be due to faulty posture and flat feet and was cured by mechanical means. In the second a prominent abdomen and flat feet were discovered and treated with satisfactory results. The third was a case in which the loosening of sacro-iliac joint at parturition and a flat foot on the side of the pain were held responsible. The flat foot threw additional strain on the already weakened joint. Treatment was directed to support the foot and limit the movement of the pelvis by bandaging. This was successful. An examination of the fourth case revealed definite bony deposits at the sides of the bodies of the fourth and fifth lumbar vertebræ, characteristic of *arthritis deformans* of the spine. The tonsils were found to be diseased and were removed. The application of the spinal brace, together with massage and baking, improved the patient's condition. As regards treatment in general the affected limb requires absolute rest. For the pain acetyl salicylic acid, salicylates and drugs, such as phenacetin, may be used. Counter-irritation over the course of the nerve is useful. The injection of water, cocaine or alcohol into the nerve is condemned.

(76) Dislocation of the Shoulder Joint.

The traditional method of treating dislocation of the shoulder joint comes in for some adverse criticism at the hands of Alan H. Todd (*Practitioner*, March, 1920). The results of the usual treatment are far from satisfactory. After the arm has been bandaged to the side for a week or more there is the greatest difficulty in restoring the power of abduction. This limitation of movement is due to a mechanical obstacle in the form of adhesions about the lower part of the joint. To obviate this trouble the author treated a number of patients in the position of abduction to a right angle and in no instance was there any difficulty in obtaining the desired abduction when the splint was applied within two days of the reduction of the dislocation. There are no muscles on the inferior aspect of the shoulder joint, the capsule is thin and thrown into redundant folds, especially when the arm is adducted. If the arm be tied to the side the edges of the tear in the capsule, which is always on the inferior aspect of the joint, will be crinkled up and adhere to the folds of the capsule or to the humerus. This, together with the inflammatory exudate, forms a hard mass and is the obstacle to abduction. Should stiffness appear in a shoulder which has been treated in the abducted position, movement of the upper limb is not limited to any marked extent, on account of the mobility of the scapula. Redislocation did not occur in any of the patients who were treated by the abduction method. It appears that the risk of redislocation is actually less, since in this position the inferior aspect of the capsule is tense, with the lips of the tear in apposition The muscles also assist in keeping the head of the humerus in contact with the glenoid cavity. The only risk of redislocation is during hyperabduction and therefore this movement is to be avoided. In the after treatment movements are not used during the first ten days, but massage is administered daily, to decrease pain and to remove effusions. The splint is removed in from 10 to 14 days and active movements are performed without violent effort. Circumduction is the last movement to be attempted. Seven cases were treated by the author at Guy's Hospital and in all the result was very much better than in those which were treated by placing the arm in a sling or by bandaging at the side.

(77) Birth Palsy.

Birth palsy with unusual features in a boy aged 11 years is reported by R. C. Elmslie (*Proc. Royal Soc. Med.*, April, 1920. No treatment by splinting had ever been carried out and no treatment at all had been given for several years. All the muscles of the right upper limb, with the exception of the lateral rotators of the shoulders, appeared to be active. The position of the arm at the shoulder was peculiar. The usual medial rotation was present, but in addition the arm was fixed in flexion and abduction. A posterior subluxation of the head of the humerus was present. X-ray examination showed a hooking of the acromion process with marked flattening of the head of the humerus. The author intended to treat the muscle of the limb with massage and faradism, to be followed by division of the anterior part of the capsule of the shoulder joint and of the subscapularis tendon. The upper limb would be flexed in abduction and lateral rotation for three months.

(78) Scoliosis of Uncertain Origin.

A girl aged 10 fell in a playground. The accident was apparently trivial and little notice was taken of it. Some months later the mother noticed that the child's back was not straight. In the erect position there was very little abnormality seen, but when the spine was flexed the whole trunk was carried to the left, the right lumbar region became prominent and a secondary left thoracis curve appeared. Flexion of the spine forward or to the right was impossible. The X-ray examination showed that the articular processes between the fourth and fifth lumbar vertebræ on the left side were forced into a dense structureless mass of bone and that the fourth lumbar vertebra was obliquely placed upon the fifth. There was a deficiency in the lamina of the fifth lumbar vertebra and its left transverse process was longer than the right. There was no rarefaction of bone and the bodies of the vertebræ were normal in outline. The possibilities of the cause of the condition were fracture, congenital abnormality or caries. The author, P. Maynard Heath (*Proc. Royal. Soc. Med.*, April, 1920), held that, in spite of the accident, the balance of the evidence was in favour of a developmental process.

(79) An Operation for Dislocation of Peroneal Tendons.

Dislocation of the peroneal tendons is not a common condition, but it is both painful and disabling. To prevent the dislocation, R. E. Kelly (*British Journ. Surgery*, April, 1920) resected the lower end of the fibula by making two saw cuts, one antero-posteriorly and the other in the sagittal plane, so as to free the outer part of the lower end of the fibula. The whole operation was done sub-periosteally, so as to preserve intact the tendon sheaths of the muscle. The resected piece of bone was displaced backwards in an oblique manner and fixed in position by two counter-sunk screws. This provided a more prominent lip to the peroneal groove. The operation was successful, but the author has improved his technique by avoiding the use of screws in proximity to the ankle joint. His second method was to drill a small hole antero-posteriorly with a slight inclination downwards, into which a fine finger saw was inserted. With this saw a vertical cut was made downwards, but stopped short of the extremity of the malleolus. Two other saw cuts, the upper one passing obliquely from below upwards and the lower one from above downwards, undercut and make a wedge-shaped graft. The posterior part of the graft should be shorter than the anterior, so that when it is displaced backwards by the hammer, it will fit tightly in its bed. A backward displacement of 0.6 cm. is sufficient to produce a satisfactory result.

MORPHOLOGY.

(80) Course of Wolffian Tubules in Mammalian Embryos.

The first stage considered in the development of the Wolffian tubules referred to by Frederick T. Lewis (*Amer. Journ. of Anatomy*, January 15, 1920)

is the S-shaped stage first described perhaps by Kölliker in 1879 in the case of the rabbit. Mihalkomis (1885) further established that the young tubules have the form of a letter S from studies of the lizard, duck, chick and sheep. The middle limb of this S-shaped tubule itself takes the form of a letter S. At the junction of the coiled limb with the distal part of the tubule (distal meaning the portion towards the Wolffian duct), a V-shaped loop next appears. In human embryos the simple S may be expected in 6 mm. specimens and in those somewhat smaller. At 7.5 mm. the double spiral has formed, *i.e.*, the middle loop has been converted into an S. In a model from a 16 mm. embryo the tubule has increased in length from 0.3 mm. to 0.8 mm.. Cytological differentiation has advanced, but the coiling of the tubule has undergone a slight retrograde movement. Felix (1912) found that from the stage of 21 mm. onward the Wolffian tubules are "almost all broken in one or several places," and that "all degenerating tubules show a tendency to lose to a greater or lesser extent their S shape." Lewis figures a tubule from a 22.8 mm. embryo. In passing he notes that the anterior tubules are extensively degenerated, which lends no support to MacCallum's statement, that "the degeneration of tubules progresses from the posterior end of the organ forwards." The tubules are longer in the embryos of the pig, in which the Wolffian body is more highly developed than in man. The morphological subdivision of the tube is considered to stand on firmer ground when the course of the tubule is described than when a functional significance (secretory or collecting) to its bends is assigned.

(81) The Extra Hepatic Biliary Tract.

F. C. Mann, S. D. Brunhall and J. G. Foster (*Anatomical Record*, February 20, 1920) have investigated the extra hepatic biliary tract in common domestic and laboratory animals. By constructing tables of comparison of the length and circumference of the common bile duct and cystic duct and the capacity of the gall-bladder, they found that there was no relation between the dimensions of the common duct and the presence or absence of a gall-bladder. The horse which does not possess a gall-bladder, has a relatively short duct with a large diameter, while the ox, which possesses a gall-bladder, has a duct which, although narrow, is much longer and its relative capacity is almost as great as that of the horse. The distance between the pylorus and the entrance of the bile duct into the duodenum was also measured, but no differentiation could be made between groups of animals having a gall-bladder and those without one. The investigation aims at forming a nucleus for the study of the comparative anatomy of this region and the biliary tracts in the animals investigated are accurately illustrated. The various tracts are also represented diagrammatically.

(82) Phagocytic Activity of the Spleen

By injecting washed pigeon's corpuscles into the circulation of the rabbit, William H. F. Addison (*Amer. Journ. of Anatomy*, January 15, 1920), has been able to study histologically the spleen of the rabbit under heightened phagocytic activity. The rabbits were taken from one to 48 hours after injection. The animal was bled through the inferior *vena cava* and the spleen washed out with normal saline solution through the aorta and then fixed *in situ*. Phagocytic cells are always to be found in the spleen of the normal rabbit. The largest of these (splenocytes) are free-swimming mononuclear cells, varying in size according to the bulk of their contents. Inclusions in the protoplasm of various appearances give a strongly positive iron reaction and are regarded as products of the intracellular digestion of entire erythrocytes or fragments of them in the form of hæmasiderin. A splenocyte is not infrequently seen containing a polymorphonuclear leucocyte. The latter are characterized by fine cytoplasmic granules (smaller than in true eosinophile cells). These granules stain a vivid red colour with stains containing eosine. In the animals used in the experiments a third type of cell larger than the pseudo-eosinophilic polymorphonuclear cells and also containing eosinophile granules makes its appearance. These cells are also found in the blood channels and framework tissue of the bone-marrow and are regarded as having their origin in the bone-marrow and of being of the myelocyte type. They may be seen undergoing mitosis, but it is questioned whether this is normal mitosis. Muir has noticed similar appearances in infective conditions. The presence of these myelocytes, which first appear two hours after injection of a rabbit with the washed pigeon's blood corpuscles, is thought to indicate a bone-marrow crisis occurring as a reaction to the hæmolysis of the pigeon's corpuscles. The cells are rapidly hæmolyzed, usually in the first hour. The products of hæmolysis are excreted through the kidney in sixteen hours. The myelocytes are caught within the spleen and quickly begin to be ingested by the splenocytes. The splenocytes grow with their increased contents until at the sixteen-hour stage they reach a very large size. As many as 20 cells are visible in a 4 μ section of a splenocyte measuring 55 $\times$ 23.4 μ. As digestion proceeds the splenocytes become smaller and at the 48 hour stage they are much reduced in size, some not much larger than normal. Moreover, the splenocytes ingest the red blood corpuscles. Hæmolysis is so rapid that few are taken up intact. Schizocytes are also ingested. As noted, pseudo-eosinophilic polymorphonuclear cells are found in the splenocytes. By the 48th hour the majority of the inclusions as a result of digestion have been reduced to the condition of fine, darkly staining granules, but some retain the original form of nucleus. The author concludes that viewed in relation to their activity toward effete red blood corpuscles of their own circulation, the splenocytes are capable of taking up either entire red blood cells or fragments of them. In this experimental procedure it is to be noted that it is the splenocyte which shows an increased amount of iron-containing substances, while the endothelial cells show for the most part very little. The splenocytes are the first to act and continue to act as the main phagocytic agents.

(83) Retention of Dead Fœtuses in Utero.

Albert Kuntz (*Anatomical Record*, April 20, 1920) discusses the bearing of the retention of dead fœtuses *in utero* on the problems of superfœtation and superfecundation. The author aims at proving that mere difference of size in the case of the retention of a dead fœtus does not necessarily indicate that the fœtuses belong to different periods of ovulation. He cites three cases of animals and shows that in the smaller fœtuses in each case, though the surface layers of the skin may not be completely disintegrated, histological examination of the heart, liver, intestine and skin shows obvious necrosis. The majority of the nuclei retain their normal form, but contain relatively little stainable material. The cytoplasm is somewhat fragmented, but there is no evidence of autolysis or absorption. The necrotic condition of these tissues indicates that such a fœtus may have been dead for some time, but retrogressive changes are only slowly progressing. Absorption occurs more rapidly, however, in some cases. Meyer found "only a few specimens of almost complete intra-uterine absorption" among over 2,000 abortuses of the Nall collection. The preservation of external form gives little indication of the true state of the constituent tissues. In some cases autolysis and absorption progress so slowly that, though extensive necrosis of the tissues occurs, very little absorption takes place. The external form of the fœtus remains well preserved. In the case of a cat in which the uterus contained in each horn a large and a small fœtus (the vesicles containing the smaller fœtuses being less than one-fourth the size of those containing the larger ones) the microscopical changes detailed above were found in the tissues of the smaller fœtuses. On histological examination of the ovaries two large *corpora lutea* of pregnancy were revealed in each ovary in the same phase of development, indicating that four ovarian follicles ruptured during the last period of ovulation. Kuntz claims that dead fœtuses may be retained in the uterus for relatively long periods without undergoing complete autolysis and absorption or decomposition. Many cases have been reported, but not critically examined, in which two human fœtuses differing in size were aborted or a dead fœtus of less than full term was delivered with a full term child. These cases do not warrant the conclusion that either superfœtation or superfecundation has occurred.

British Medical Association News.

SCIENTIFIC.

A meeting of the New South Wales Branch was held at the Blackfriars Practice School, Sydney, on July 9, 1920. In the absence of the President, Dr. F. P. Sandes, as past President, took the chair.

The members were received by Miss R. W. Stevens, the Mistress in charge of the school, and Dr. Harvey Sutton, the Principal Medical Officer of the Department of Public Instruction. Miss Stevens conducted the members through the school and demonstrated the methods employed. The demonstration began in the Infant's Class. Miss Burnett, one of the teachers, a gifted pianist, played an appropriate march while the infants entered the room in a natural manner. The Department seems to be short-sighted in one respect, in that, having secured the services of a skilled musician who has the power and will to apply the irresistible suggestion inherent in good and appropriate music, it places at the disposal of this lady an instrument that certainly does not deserve to be called a piano.

The children were then told to select any apparatus they liked from an ample supply in the various cupboards. This apparatus includes the ordinary Montessori equipment and some very ingenious modifications. The little ones were soon busy, squatting on mats, teaching themselves arithmetic and written symbols. The members remarked on the quiet decorous behaviour and the earnestness of the children in carrying out their various tasks.

Members were next conducted to other classes, where older children attempted and solved more difficult problems. The absence of unnecessary direction, the self-reliance, the attention, concentration and the ambitious endeavour to succeed, were very evident.

The attention of the members was particularly directed to the work of some of the older children, who were busily engaged at mathematical problems with beads strung on wires and other apparatus on a verandah outside the schoolrooms. It appeared that some of these children between the ages of six and seven had not yet learnt to apply previous experience to the tasks on hand. The Montessori teacher finds it advisable not to guide young children at this stage to use short methods to an end. She leaves them to find them out in the course of time.

The members were then invited to congregate for the second time in the Infants' Class-room, where the smallest pupils went through the ordinary Kindergarten performances to a musical accompaniment and did it in a very charming manner. While there was no restraint exercised on the children by the teachers, not a single child took advantage of the freedom permitted. All were well-behaved, all enjoyed the dancing and games and all exhibited a delightful and affectionate adherence to the teachers. The baby voices sang the National Anthem at the conclusion.

At the end of the demonstration the members gathered together in the large room. Miss R. W. Stevens gave an account of the work in the school and more particularly of Montessori's influence on education (see page 189).

Dr. Harvey Sutton read a short paper on the "Manifestation of Rickets in School Children" and illustrated his remarks by demonstrating children suffering from this affection (see page 190).

Dr. C. P. Stewart read a short paper on "Mental Deficiency" (see page 193).

There was no discussion. The meeting terminated after a cordial vote of thanks had been passed to Miss Stevens and her colleagues.

The undermentioned have been nominated for election as members of the New South Wales Branch:—

Gavin Bruce White, Esq., M.B., Ch.M. (Univ. Sydney), 1920, Royal Prince Alfred Hospital, Camperdown.

Victor Richmond Woodhill, Esq., M.B., Ch.M. (Univ. Sydney), 1920, Royal Prince Alfred Hospital, Camperdown.

John Marie Anthony Paling, Esq., M.B., Ch.M. (Univ. Sydney), 1920, Royal Prince Alfred Hospital, Camperdown.

Norman Ross Smith, Esq., M.B., Ch.M. (Univ. Sydney), 1920, Royal Prince Alfred Hospital, Camperdown.

Eric Francis Erby, Esq., M.B., Ch.M. (Univ. Sydney), 1918, Wigram Street, Granville.

Henry Charles Barry, Esq., M.B., Ch.M. (Univ. Sydney), 1918, Ernest Street, Hunter's Hill.

Harry John Daly, Esq., M.B., Ch.M. (Univ. Sydney), 1918, Dalhousie Street, Haberfield.

Medical Societies.

MELBOURNE HOSPITAL CLINICAL SOCIETY.

A meeting of the Melbourne Hospital Clinical Society was held in the lecture-room of the Melbourne Hospital on July 23, 1920, the President, Mr. Basil Kilvington, in the chair.

Sir James Barrett, K.B.E., C.B., C.M.G., presented a young man, aged 18, who exhibited all the features of oxycephaly. Sir James demonstrated the sharp head, exophthalmos, with divergence of both eyes, and projection of the fontanelle. All the eye movements were normal, as determined by careful measurements with the tropometer. The vision on the right side, with — 5 spherical lens, was $^6/_{12}$ partly and on the left, with — 8 spherical, $^6/_{12}$ partly. Examination of the discs showed that there was no optic atrophy. The X-ray report was: "Turricephalic head, with short anterior fossa and orbits and deep middle fossa; *sella* unchanged; thinning of cranium, with well marked convolution impressions; no sutures detected."

Sir James Barrett remarked that the term oxycephaly literally meant "sharp head" and that the most satisfactory explanation of the condition was that of Virchow, who attributed it to a premature closure of the sutures between the frontal, parietal and occipital bones, with resulting encroachment on the orbital cavity. Many subjects of oxycephaly became blind as the result of pressure on the optic nerve; the eyes were sometimes dislocated. In this patient there were no stigmata of degeneration, the family history was good and he had left school at the age of 13 with a certificate of merit.

Dr. Konrad Hiller asked for discussion on the case of a male patient who had developed jaundice after a series of injections of arsenical preparations, salvarsan or its equivalents. This man had contracted a primary sore in March, 1919, and was at first treated with local applications. Later, a series of arsenical injections was given; he received a further course at the military camp at Langwarrin, Victoria. He came up for a pension review and was then sent on to the Public Health Clinic for Venereal Diseases. His own statement was that he there received some more injections of a "yellow liquid." Jaundice supervened ten days after the last injection, but the patient was comparatively well and was afebrile. There was very slight, if any, diminution in the size of the liver. The stools were clay-coloured. The urine contained bile pigments, but leucin and tyrosin had not been demonstrated.

Dr. Hiller mentioned another instance, in which the patient had received seven "606" injections and jaundice had appeared four weeks after the last injection. The four weeks interval was the same in both men and both had been well in the interval. The Wassermann test in the case of the first patient yielded no response, but the serum of the second man still gave a positive reaction. It appeared that the cumulative action of arsenic led to either a condition of cholangitis or some damage to the liver cells.

Mr. Victor Hurley, C.M.G., said that he had had a considerable experience of salvarsan administration while on active service. Among approximately 1,000 patients treated in this manner, about a dozen had exhibited jaundice. Just as Dr. Hiller had described in his patient, the jaundice generally appeared about four to six weeks after a series of injections. All the cases within his own experience had been mild, but it was not invariably so; some were fatal. He had recently read a report on 57 cases of jaundice following salvarsan administration by a Canadian officer. In that series nine were fatal. The *post mortem* findings were not those typical of acute yellow atrophy, although they resembled them in that there was some diminution in the size of the liver, a tendency to hæmorrhage, as shown by petechiæ in the mesentery and elsewhere, and severe lesions were found in the

liver parenchyma when it was examined microscopically. Investigation had shown that there was often some fault in the technique of administration when this complication supervened, such as oversight in regard to the urinary examination before the injection or neglect to warn the patient to take only very light meals for the 24 hours preceding his injection.

Dr. N. Hamilton Fairley, O.B.E., remarked that at the last meeting but one of the Pathological Society of Great Britain and Ireland three specimens were shown, illustrating acute yellow atrophy after salvarsan injections. In each example the small, discoloured liver, with wrinkled capsule, was very typical. The indication for treatment was to take measures to prevent portal congestion during treatment of the secondary stage of syphilis.

Mr. W. Dismore Upjohn, O.B.E., stated that his experience coincided with that of Mr. Hurley, in that the cases were mild and that he had seen no fatalities. Death occurred sometimes, however, as he had noted in the literature on the subject.

The general opinion of members was that the appearance of jaundice should be taken as an indication to discontinue treatment by salvarsan or its substitutes.

Mr. F. H. Langlands brought forward a soldier who had come under his care with an ununited fracture of the left tibia and extensive damage to the muscles on the anterior aspect of the lower third of the right femur. The patient had been wounded in 1918 and in March, 1919, Mr. Langlands had performed a bone-grafting operation for the repair of the tibia. In cutting the graft he had used a chisel instead of a saw, which was the instrument usually chosen for the purpose. The wound over the right femur involved the loss of a large portion, 15 cm. × 15 cm., of the *rectus femoris*. This Mr. Langlands had repaired by a transposition of adjoining muscles. The graft had taken very well and the man now had good power of extension of the right knee. Mr. Langlands detailed the steps of the operations involved.

The members were impressed with the excellence of the results.

Mr. Frank Andrew showed a man, aged 50, in whom there was a question of a neoplasm in the right tonsil. The tonsil was extremely large, but two considerations difficult to reconcile with a new growth were (*i.*) the fact that it was freely movable and (*ii.*) the apparent escape of the cervical glands. A peculiar circumstance was that three years previously the opposite tonsil became similarly enlarged; a piece had been removed, presumably for microscopical examination, and the enlargement disappeared.

Mr. B. T. Zwar presented a young woman who had been admitted to the hospital shortly after midnight on May 26, 1920. She complained of a "blow on the stomach" and a cut over the right hip, received about three-quarters of an hour before admission. It transpired that the patient had been caught in a crowd in the city and had been pushed through a plate-glass window. She complained of faintness and great pain in the abdomen, especially on the right side. The pain was first in the region of the liver, but at the time of examination was most severe in the appendical area. There had been no vomiting. When seen at 12.15 a.m. the patient appeared to be in a condition of shock, though her temperature was normal and her pulse-rate 84. Diminished abdominal movement all over was noted; severe pain in the right side of the abdomen was increased by deep breathing. The whole of the right side of the abdomen was tender and dull to percussion. An indefinite mass extended from the right iliac fossa to the gall bladder area. A cut was present over the right ilium, 5 cm. in length, situated 10 cm. behind the anterior superior iliac spine. At 1.15 a.m. the pulse-rate had increased to 112 and there was a little bleeding from the wound. The findings on examination of the abdomen were similar to those above recorded; a catheter specimen of urine contained no blood. There was no sign of any free gas in the abdominal cavity. Following the injection of morphine, 0.0075 grm., the pulse-rate slowed to 96 and the patient passed a comfortable night.

She was seen next day at 10 a.m. and appeared to be quite comfortable. There was less rigidity. A definite mass could now be distinguished just below the gall bladder and Dr. Disher, in examining the wound over the ilium, found a piece of glass firmly imbedded therein. The glass was removed under a general anæsthetic. It was observed that its deep end had a fæcal odour. By 8.45 that evening the patient's abdomen had become greatly distended. She had vomited and was inclined to vomit. The distension had progressed rapidly and the patient was distressed in consequence.

Laparatomy through the right rectus edge did not reveal any definite signs of peritonitis, but there was much retroperitoneal hæmorrhage in the region of the hepatic flexure. Odourless, blood-stained fluid was present at this point, inside the peritoneum, as well as in the pelvis. The caecum and ascending colon were greatly distended, but no break through the peritoneal covering could be discovered anywhere. The collections at the hepatic flexure and in the pelvis were drained and cultures secured from the fluid in both situations. Relief of the colonic distension was effected by aspiration; the abdomen was closed. A report on the cultures made at the time of operation was to the effect that there was a late growth of *Staphylococcus albus*, but no colon bacillus. Subsequently the patient developed a fæcal fistula through the wound traversing the ilium, but the amount of the discharge thus occasioned had gradually diminished. Enemata were found more or less unsatisfactory, but aperients effected a good, normal bowel action, with lessening of the discharge through the fistulous opening. The patient experienced a set-back in a rather severe secondary hæmorrhage, which occurred on the tenth day. She was improving, but had lost very much in general condition. Throughout there had been some fever. It was thought that there was some osteomyelitis of the ilium.

Mr. Zwar exhibited the piece of glass removed from the wound, a large triangular piece of plate glass, 15 cm. × 2.5 cm.. In discussing the immediate surgery of the case he said that he had considered at the time the advisability of posterior colostomy and of a short-circuiting operation. His experience on war service had been that this class of case was attended by high mortality, on account of rapidly spreading cellulitis in the retro-pertioneal tissues.

Dr. R. H. Strong outlined the case of a man, *æt.* 45, who had formerly been an inmate of a country hospital for progressive weakness and general glandular enlargement. The illness commenced six months previously, when the patient began to suffer from severe pain in the back, neck and legs. He was forced to remain in bed for variable periods by the severity of the pain and the gradually increasing degree of weakness. Latterly he had been troubled with slight morning cough, accompanied by the expectoration of yellow sputum. There had been much loss of weight and the patient himself had observed lumps in the groin. He had lost a leg by amputation for osteomyelitis at the age of 15. The sputum had been examined for tubercle bacilli, with negative result. An X-ray screen examination of the chest indicated a condition of marked fibrosis of the lungs, radiating from the hilus; the posterior mediastinal space was obliterated. The physical signs in the chest were in accord with this finding. The margin of the liver was to be found two fingers' breadth below the costal margin, but the spleen was not palpable. Examination of the blood revealed a non-distinctive secondary anæmia. A gland had been excised for microscopical section but no report had yet been received. The radiographer's report on the cervical spine was "General porosity of bones, with mottling; absorption of cartilage; (?) infective spondylitis."

Dr. Strong remarked that the patient had been afebrile during his stay in hospital. Members might examine the small, hard, shotty glands, which were everywhere palpable.

Dr. Strong's second patient was a woman, aged 62, exhibiting hæmaturia, a palpable kidney and bony swellings in the right tibia. Five months previously she had begun to be troubled with pain in the right leg, for which she had used a variety of local applications. Four months before she had contracted influenza and had been "weak" ever since. Her appetite was impaired and she had lost much weight. Five weeks prior to admission to hospital she had passed blood in the urine and had lost much blood in this manner during the past few weeks. The bony swellings on the tibia had been present for six weeks; they were situated just below the head of the bone and in the lower third. Both were pulsating and tender to the touch. Radiograms of the bone and of the renal region had not yet been obtained.

Dr. J. F. Wilkinson introduced a man, aged 31, in whose case he had made the diagnosis of *encephalitis lethargica*. The patient had been admitted to hospital with a suspected cerebellar lesion and a history of illness, which had com-

menced two weeks previously with vomiting. From that time onwards he had been giddy, had staggered when he walked and had become more and more drowsy every day. There had been no hemianopsia, diplopia, nor squint, but on looking to the left the patient had exhibited a slow, non-rhythmic nystagmus. Two days after admission a definite left ptosis was observed. Examination of the nervous system generally was negative, with the exception of a double true ankle clonus and a double extensor plantar response. Both knee-jerks were active, the left more so than the right. The blood serum failed to deviate complement in the presence of a syphilitic antigen. The investigations on the cerebro-spinal fluid were vitiated by the presence of blood. Sir James Barrett had reported the presence of a central scotoma for green and red such as was usually associated with a toxic amblyopia or an axial neuritis.

Dr. Wilkinson, in commenting upon this case, said that he had been unable to find any evidence of a cerebellar lesion. The giddiness and drowsiness had passed away, but he considered it remarkable that a double true ankle clonus and a double extensor response in the great toe should persist for one week and then disappear, as had happened in this patient. He had not seen any record of such an occurrence.

Dr. Wilkinson further showed a young woman, aged 22, in whom persistent abdominal distension was the principal cause of complaint. Fourteen months previously she had undergone appendicectomy for an acute attack of appendicitis. Three weeks later she had begun to complain of nagging pain in the left side. Almost immediately she noticed a small swelling in the lower region of the abdomen, on the left side. Distension and pain continued to get worse and in March, 1920, Mr. Syme explored the abdomen for adhesions, but could not satisfy himself that these were present to a degree sufficient to account for all the symptoms. Prior to the operation there had been almost complete intestinal obstruction, for which aperients produced very little effect. Operation did not lead to any relief of symptoms. On May 23, 1920, the patient exhibited a typical hysterical fainting fit; she had had four similar attacks since that date. Dr. Wilkinson described these obviously hysterical seizures in detail and added that since her admission to hospital the young woman had slept well every night although her temperature readings were most erratic for a week, until it was shown that she had been "sending them up." She held the abdominal muscles rigidly, but a large localized, tender swelling could be defined in the left iliac region and a smaller, similar swelling was present in the region of the old appendical scar. She was tender over the fourth and fifth lumbar vertebræ. Although the bowels were at that time acting regularly with aperients, the distension persisted. An X-ray examination had been obtained and Dr. Clendinnen had reported that the whole descending colon was very much dilated, producing a translucent picture from the spleen to just above the pubis; there were no fæcal masses.

Dr. Wm. Ostermeyer presented three patients with *dementia paralytica*, the immediate causes of admission of whom were respectively convulsions, hemiplegia and diplopia, with deafness. The first patient had been before the Society at its meeting on June 25, 1920, when Dr. Ostermeyer expressed the opinion that the condition was general paralysis in complete remission. In the second instance the hemiplegia had largely cleared up, but some anæsthesia persisted, along with articulatory defects, fibrillary tremors in the tongue and loss of memory. The deafness in the third case had been determined by Dr. Andrew as bilateral nerve deafness. In this patient, also, articulatory defects were conspicuous. He was probably in a very early stage, as mental defect was not yet apparent. However, he stumbled frequently in his speech and on resumption a tremulous action of the levators of the mouth was very noticeable.

Dr. Ostermeyer emphasized the significance of articulatory defects and abolition of the action of the finer muscles of expression in early *dementia paralytica*. Confirmation should always be obtained, however, by a Wessermann test of both blood and cerebro-spinal fluid. The serum of the three patients all yielded a well marked reaction in both.

Dr. S. W. Patterson demonstrated pathological specimens to show the effect of back-working on the kidneys in urethral obstruction due to (*i.*) stricture, (*ii.*) prostatic adenoma, (*iii.*) malignant disease of the prostate, (*iv.*) vesical papilloma, with ball-valve obstruction, (*v.*) vesical calculi,

THE MEDICAL SCIENCES CLUB OF ADELAIDE.

On April 16, 1920, a meeting of interested medical practitioners was held at the University of Adelaide to inaugurate a society to be known as the Medical Sciences Club, to appoint a committee and to instruct this committee to draw up a constitution. The Club was founded for the purpose of holding informal meetings at which scientific subjects appertaining to medicine could be discussed. The Committee presented a draft constitution at the third meeting of the Club on June 4 and this constitution was adopted. The office-bearers for the year 1920 are: Chairman, Dr. H. Swift; Honorary Secretary, Professor T. Brailsford Robertson; Members of the Council, Professor J. B. Cleland and Professor F. Wood Jones.

The fifth meeting was held on August 6, 1920. Dr. C. P. Rosenthal, at the invitation of the Club, gave an account of the administrative methods employed in the Australian Hookworm Campaign. The remedial measures consisted in the administration of oil of chenopodium to all infected persons until the fæces were free from ova. Preventive measures were also taken in regard to the disposal of the excreta.

Dr. H. Swift reported that impure calamine was being distributed. It consisted almost entirely of barium sulphate, which had irritative rather than sedative properties. It was resolved that this matter should be brought to the notice of the South Australian Branch of the British Medical Association.

Professor J. B. Cleland stated that he had found chloroform in the subcutaneous fat of an obese person who had died five hours after the administration of this anæsthetic for the purposes of an operation. He suggested that body fat might act as a reservoir for chloroform and that this substance might be liberated in the blood at a later period. This might lead to the manifestations of delayed chloroform poisoning.

Sir Joseph Verco drew attention to the presence of minute ovoid clear bodies in the field of vision when the gaze was directed toward a cloud, the blue sky or a white, not brilliantly illuminated wall. The bodies differed from *muscæ volitantes* in being uniform in size and in moving in uniform directions. He interpreted them as being the shadows of blood corpuscles in the retinal vessels cast by projection to the plane of vision. The shadows would appear as objects approximately 360 times the dimensions of the corpuscles.

Dr. R. W. Cilento exhibited a series of dioptographic tracings of distorted skulls from New Britain.

Dr. W. Ray showed an X-ray plate taken of a supposedly fractured hip. The skiagram revealed that the actual fracture was of an ossified gluteal muscle.

Naval and Military.

APPOINTMENTS.

The following appointments, etc., have been notified in the *Commonwealth of Australia Gazette*, No. 67, of August 19, 1920:—

Permanent Naval Forces of the Commonwealth (Sea-Going Forces).

To be Surgeon-Lieutenants (on probation)—

Robert Martin, M.B., M.S., date of appointment—28th June, 1920, seniority in rank—28th June, 1920.

Edward Thomas Brennan, M.B., B.S., date of appointment—19th July, 1920, seniority in rank—1st September, 1918.

William James Connolly, L.R.C.P., L.R.C.S., date of appointment—19th July, 1920, seniority in rank—1st July, 1919.

Royal Australian Naval Brigade.

To be Surgeon-Lieutenant (on probation)—

Ralph Edgar Harris, L.R.C.P., L.R.C.S. Dated 2nd May, 1920.

PROMOTIONS.

To be Surgeon-Lieutenant-Commander—

Surgeon-Lieutenant Ernest Harris Beaman. Dated 1st August, 1920.

TRANSFER.

Surgeon-Commander Bedlington Howel Morris is transferred from the (M) Section to the (C) Section of the Royal Australian Naval Brigade. Dated 1st July, 1920.

Australian Military Forces.

Second Military District.

To be Lieutenant-Colonels—

Majors (Honorary Lieutenant-Colonels) J. H. Phipps, D.S.O.; A. H. Tebbutt, D.S.O.; and J. C. Storey, O.B.E.; and Major K. Smith, C.M.G.; 1st July, 1920.

To be Majors—

Captain R. A. Robertson; Captains (Honorary Majors) H. J. Clayton, R. A. P. Waugh and L. W. Dunlop; Captain (Honorary Lieutenant-Colonel) H. R. G. Poate; Captain F. A. Maguire, D.S.O.; Captain (temporary Major) C. H. E. Lawes; Captain W. L. Kirkwood, O.B.E.; Captains (Honorary Majors) E. M. Ramsden and W. T. Newton; Captain A. W. H. A'Court; Captain (Honorary Lieutenant-Colonel) J. Relach; Captain (Honorary Major) A. P. Wall; Captain (Honorary Lieutenant-Colonel) C. E. Wassell, D.S.O.; Captain (Honorary Major) W. K. Inglis; Captain and Brevet Major (Honorary Lieutenant-Colonel) C. W. Thompson, D.S.O., M.C.; Captain (Honorary Lieutenant-Colonel) H. V. P. Conrick, D.S.O.; Captain A. C. Arnold; and Captain (Honorary Major) G. E. Marolli, 1st July, 1920.

To be Captains—

Honorary Major N. E. B. Kirkwood, M.C., from the Reserve of Officers; Honorary Majors T. F. Brown, D.S.O., and A. M. Davidson, O.B.E., from the Reserve of Officers, Third Military District; Honorary Captains P. A. C. Davenport and J. W. Farrar from the Australian Army Medical Corps Reserve; Captains H. G. Leahy, M.C., and E. W. B. Woods, M.C.; and Honorary Captain E. E. Pittman from the Reserve of Officers; and Temporary Captain F. W. Kane, 1st July, 1920.

The provisional appointments of Captains A. R. Heupt and A. MacInnes are confirmed.

Major (temporary Lieutenant-Colonel) A. J. Hood, V.D., to be transferred to the Unattached List, 1st July, 1920.

Captain and Brevet Major (Honorary Lieutenant-Colonel) W. E. Kay, D.S.O., to be transferred to the Reserve of Officers and to be Lieutenant-Colonel, 1st July, 1920.

Captain (provisionally) H. E. Thomas to be transferred to the Australian Army Medical Corps Reserve and to be Honorary Captain, 1st July, 1920.

The undermentioned officers to be transferred to the Retired List, with rank as stated, and with permission to retain such rank and wear the prescribed uniform, 1st July, 1920:—

With Rank of Colonel—

Lieutenant-Colonel and Brevet Colonel B. J. Newmarch, C.M.G., C.B.E., V.D., and Captain A. H. Moseley, D.S.O.

With Rank of Honorary Lieutenant-Colonel—

Major J. Kerr.

With Rank of Major—

Major W. G. Armstrong.

APPOINTMENTS TERMINATED.

Second Military District.

The provisional and temporary appointments of the undermentioned officers are terminated: Captains G. D. Menzies, A. W. Mobbs, W. Irwin, E. A. Tivey, and W. D. Langton, 1st July, 1920. (Ex. Min. No. 378.)

It is with regret that we have to record the death of Dr. S. A. Alcorn, of East Maitland, which took place on August 20, 1920.

Correspondence.

THE TREATMENT OF ANTHRAX.

Sir: *Re* your sub-leader of 31st ult. on the treatment of anthrax, my experience makes a strong case for excision.

CASE I.—Male, age 20, came to my surgery, Wagga, for the purpose of having tonsils removed. I noticed he had a well-defined malignant postule on his left forearm, flexor surface, which caused him no pain and slight inconvenience. At first I could get no history and he objected to operation, but subsequently agreed and told me he skinned a dead bullock two days previously. I removed the postule by free incision, brought the wound together with stitches, which healed without complications.

CASE II.—Male, age 19 years, visited hospital, Wagga, to inquire after Case I. two days after operation, and whom he thought had tonsils removed. This young man had also a malignant pustule, same situation as former case and he informed me he assisted in skinning the bullock. I excised freely as before with the same results. The specimen from this case is now in the museum, Sydney University.

CASE III.—Male, age 42 years, malignant pustule left forearm, flexor surface, situation nearer wrist than former cases. Inoculation 24 hours previously. Excised and treated as before, with same results.

CASE IV.—Male, age 44, malignant postule of face, with general infection. No treatment; died four hours after admission to hospital.

The treatmetnt, I am convinced, is free excision beyond the brawny and reddened zone and the wound closed by stitches.

I think cauterization, as advocated, useless, for if there is a general infection the case is hopeless. Situation is also an important factor. Dissemination is much more rapid on the face than the arm and holds out less prospect of success.

Yours, etc.,

T. WATKINS BURGESS.

Coolong Road,
Vaucluse, Sydney,
August 10, 1920.

TRANSMISSION OF PATHOLOGICAL SPECIMENS BY POST.

Attention is drawn to the fact that express delivery of packages sent through the post may be ensured by dealing with such articles in accordance with Paragraph 141 of the Post and Telegraph Guide of the Commonwealth of Australia.

The following procedure should be adopted:—

A thick heavy perpendicular line is to be drawn on either side of the envelope or label and the words "Express Delivery" clearly inscribed. The fee of fourpence in addition to the ordinary postage must be pre-paid by affixed postage stamps. Letters and packages so marked and prepaid are delivered by special messenger immediately after receipt of the mail in which they are enclosed.

This simple expedient obviates the trouble involved in the registration of articles at a post office and eliminates the delay which frequently occurs in the transmission of urgent packages to pathologists and others.

We are indebted to Dr. Oliver Latham for calling attention to this matter.

Books Received.

THE EXTRA PHARMACOPŒIA OF MARTINDALE AND WESTCOTT, Revised by W. Harrison Martindale, Ph.D., Ph.Ch., F.C.S., and W. Wynn Westcott, M.B., D.P.H., Seventeenth Edition (in two volumes), Volume I.; 1920. London: H. K. Lewis & Co., Ltd.; Foolscap 8vo., pp. 1,115. Price, 27s. net.

A TEXT-BOOK OF DERMATOLOGY, by J. Darier, Authorized Translation from the Second French Edition, Edited, with Notes, by S. Pollitzer; 1920. Philadelphia and New York: Lea & Febiger; Royal 8vo., pp. 769, illustrated with 204 engravings and 4 coloured plates. Price, $8 net.

DISEASES OF THE NERVOUS SYSTEM: A Text-Book of Neurology and Psychiatry, by Smith Ely Jelliffe, M.D., Ph.D., and William A. White, M.D., Third Edition, Revised, Rewritten and Enlarged; 1919. Philadelphia and New York: Lea & Febiger; Royal 8vo., pp. 1,018, illustrated with 470 engravings and 12 plates. Price, $8.50 net.

Proceedings of the Australian Medical Boards.

QUEENSLAND.

The undermentioned have been registered, under the provisions of *The Medical Act of 1867*, as duly qualified medical practitioners:—

William Hunter Watson Cheyne, M.R.C.S., L.R.C.P., 1913, Brisbane.

Arthur Herbert Crowley, M.B., Ch.B. (Univ. Melb.), 1916, Toogoolawah.

John Leslie Harrison, M.B. (Univ. Sydney), 1916, Roma.

Beaumaris William Stevenson, M.B., Ch.M. (Univ. Sydney), 1920, Gin Gin.

The following additional qualification has been registered:

Mordaunt Graham Sutton, F.R.C.S., Edin., 1919.

Medical Appointments.

Dr. W. B. O'Connor has been appointed a Resident Medical Officer at the Brisbane Hospital.

The Appointment is announced of Dr. R. G. Waddy (B.M.A.) as Honorary Ophthalmic Surgeon to the Australian Jockey Club Home for Disabled Soldiers and Sailors, "Canonbury," Darling Point, Sydney.

Dr. H. Huff Johnston (B.M.A.) has been appointed to the Honorary Medical Staff of the Newington State Hospital and Asylum, New South Wales, as Ear, Nose and Throat Surgeon.

The appointment of Dr. J. Murray Maclean (B.M.A.) as Government Medical Officer at Trangie, New South Wales, has been approved.

We regret to announce the death of Dr. Michael Stanislaus McSweeney on August 12, 1920. Dr. McSweeney was for the past six years a resident medical officer at Flinders Island.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xxi.

University of Sydney: Chair of Surgery.

University of Sydney: Chair of Physiology.

Royal Australian Navy: Three Medical Officers.

Australian Institute of Tropical Medicine, Townsville, Queensland: Medical Officer.

Royal North Shore Hospital of Sydney: Two Honorary Assistant Obstetricians.

Sydney Hospital: (1) Honorary Dermatologist, (2) Honorary Radiographer.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phœnix Mutual Provident Society.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	All Institutes or Medical Dispensaries. Manchester Unity Independent Order of Oddfellows. Ancient Order of Foresters. Hibernian Australian Catholic Benefit Society. Grand United Order of Free Gardeners. Sons of Temperance. Order of St. Andrew. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Australian Natives' Association. Brisbane United Friendly Society Institute. Cloncurry Hospital. Stannary Hills Hospital.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.)	Contract Practice Appointments at Renmark. Contract Practice Appointments in South Australia.
WESTERN AUSTRALIA. (Hon. Sec., 6 Bank of New South Wales Chambers, St. George's Terrace, Perth.)	All Contract Practice Appointments in Western Australia.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

Sept. 8.—Vic. Branch, B.M.A..

Sept. 9.—N.S.W. Branch, B.M.A., Last day for nomination of two Candidates for election to Federal Committee.

Sept. 10.—N.S.W. Branch, B.M.A., Clinical.

Sept. 10.—S. Aust. Branch, Council.

Sept. 13.—Tas. Branch, B.M.A..

Sept. 14.—N.S.W. Branch, B.M.A., Ethics Committee.

Sept. 15.—W. Aust. Branch, B.M.A..

Sept. 16.—Vic. Branch, B.M.A., Council.

Sept. 21.—N.S.W. Branch, B.M.A., Executive and Finance Committee.

Sept. 24.—N.S.W. Branch, B.M.A.; Election of two members to Federal Committee.

Sept. 28.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney. (Telephone: City 2645.)